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THE

BRITISH FLORA.

THE

BRITISH FLORA;

COMPRISING THE

PHÆNOGAMOUS, OR FLOWERING PLANTS,

AND

THE FERNS;

BY

WILLIAM JACKSON HOOKER, LL.D. F.R.A. & L.S.

MEMBER OF THE ACADEMIES OF

LUND, PHILADELPHIA, NEW-YORK, BOSTON, ETC. ETC.

OF THE IMPERIAL ACAD. NATURÆ CURIOSORUM,

HONORARY MEMBER OF THE ROYAL IRISH ACADEMY,

AND

REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW.

THE SECOND EDITION,

WITH ADDITIONS AND CORRECTIONS.

——"Call the vales, and bid them hither cast
Their bells and flourets of a thousand hues."

LONDON:

LONGMAN, REES, ORME, BROWN, & GREEN.

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TO

ROBERT GRAHAM, M.D., F.R.S. Edinb., F.L.S.

&c. &c. &c.

AND

REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF EDINBURGH.

My dear Sir,

Fellow-labourers as we are in the same field, occupied professionally in the same pursuit in Sister Universities of this country, and alike anxious for the advancement of our favourite science;—these may be considered, in themselves, sufficient reasons why I should wish to dedicate the following pages to you. But I have a still stronger inducement; namely, that I may thereby record the friendship which has, I believe, almost from the first of our acquaintance, subsisted between us, and which I fervently hope may continue during the remainder of our lives.

That this work may be found useful to your students, as well as to my own, and that your zealous endeavours to promote the interests of your Class, and of Botany in general, may be rewarded by the most happy success, are amongst the sincerest wishes of,

Dear Sir,

Your faithful and affectionate Friend,

THE AUTHOR.

INTRODUCTION.

The object which the Author proposed to himself, in preparing a new *Flora of the British Empire*, was of a twofold nature: 1stly, to provide the young Student with a description of our native plants, arranged according to the simplest method; and 2dly, to afford to the more experienced Botanist, a manual, that should be useful in the field as well as in the closet. In regard to the first object, the experience of nearly an hundred years has proved to every unprejudiced mind, that no system has appeared, which can be compared to that of the immortal Swede, for the facility with which it enables any one, hitherto unpractised in Botany, to arrive at a knowledge of the Genus and Species of a plant.—The Linnæan Method is, therefore, here adopted.

It has been the opinion of the author, and of many of his friends, that, in most of the Floras hitherto published, however excellent in other respects, either too much or too little space has been devoted to the generic and specific descriptions and synonyms; in the one case, swelling the book to a size, which entails both expense on the purchaser, and difficulty in consulting the several volumes; in the other, reducing the technical characters to the shortest possible compass, so that they can scarcely be made available, except to those who are already partially acquainted with the plant under examination, or with some of its near allies. Between these extremes, the author has attempted to steer a middle course, by giving diagnostic remarks where, and where only, they have appeared to him necessary; confining the synonyms, with few exceptions, to those of the writer who first described the plant, to a good figure, and a reference to a single Flora of Great Britain; and by adopting such an arrangement of the subject-matter as would best occupy every portion of the page, without rendering it

obscure to the reader. How far his endeavours have proved successful, must be left to the experience and judgment of those for whose use the work is particularly intended. Should it be available in advancing the cause of Botanical Science in this country, as the already rapid sale of a large impression leads him to hope, the end which was fondly anticipated at the commencement of the undertaking will be fully accomplished. During the progress of the labour, it occurred to the Author that he might give additional interest to the volume by subjoining short notices of the uses and properties of, or some little historical remarks relative to, the species, the origin of the generic names, &c.: thereby recommending the pursuit of which it treats, to the attention of the many, who are still apt to look upon Botany as a dry and profitless employment, a system of hard words, destitute of any real utility to mankind.

Mirbel has well remarked, that "Ceux qui proscrivent l'usage des méthodes artificielles n'en ont point saisi le véritable esprit; ceux qui ne s'attachent qu' à ces classifications arbitraires, et qui négligent l'étude des rapports naturels, ignorent la beauté et la dignité de la science;"—a maxim which it is to be wished were more generally acknowledged. For it is unfortunately too much the practice of the day, for the one party, having devoted an exclusive attention to one or other of these Methods, to decry that with which he is unacquainted, or the advantages of which he has never had the good fortune to experience. The more easy the commencement of a study is made, the more votaries will be drawn to it; and though they should attain to no further knowledge of a Natural Method than what has been taught by the imperishable writings of a Linnæus and of a Smith, yet let them be assured that in plants, taken individually, and in an isolated manner, there are subjects that will give ample scope for the employment of the talents of the greatest philosophers: in the due contemplation of which they may derive both pleasure and advantage to themselves, and be the means of communicating them to others.

——"The well-directed sight
Brings, in *each* flower, an universe to light."

Lyonet acquired at least as much honour, and rendered as great service to mankind by his intimate acquaintance with the anatomy and functions of the organs of a single caterpillar, as if he had spent his life in arranging all the known insects of the world according to a new and Natural System.

Nor let it be supposed that the author is advocating the cause of an Artificial System, to the exclusion of a natural one; for if any one can be more alive than another to the real advantage derivable from a knowledge of the characters of plants, when naturally combined, it is assuredly he, whose duty it is to teach the Science to those who are destined for the profession of medicine. The former method will soon enable the student to ascertain the *Foxglove*, the *Cinchonas*, the *Squill*, and innumerable other plants of which he would be ashamed to be ignorant: but the study of the latter will alone put it in his power to extend his inquiries, and with a prospect of success, to analyse other plants of the same Natural Order, among which he may expect to find similar or more powerful principles than what are hitherto known to us. This alone lays open a wide field of usefulness to the Botanist and the Physician; and with the view to so desirable an object, the name of the Natural Order to which each Genus belongs is mentioned in the following pages; and in the Appendix will be found a complete list of those Orders, so far as British Botany is concerned, together with an enumeration of the Genera belonging to them. That the remarks upon the Natural Orders could not, owing to the limited nature of the present work, be further extended, is the less a subject of regret, now that Mr. Lindley has published his *Synopsis of the British Flora*, arranged according to the Natural Orders, and his *Introduction to the Natural System of Botany:* and now that the *Nouveaux Elémens de Botanique* of Professor Richard, have been rendered accessible to the English reader, by Dr. Clinton's Translation. The work of Richard contains an excellent and a familiar Introduction to, and a Table of, the Natural Orders, and ought to be in the hands of every one who desires information upon the subject.

The labour of compiling the Flora of a country by a careful

examination and comparison of specimens themselves, whether in a living or dried state, can only be appreciated by those who have been engaged in an employment of the same kind. The collecting of materials, indeed, in their native hills and vallies, upon the sea-shore, in the woods, and among the majestic alpine scenery with which the northern parts of our island, eminently, abound, generally in the society of friends of a congenial taste, or students full of ardour and enthusiasm, has been a very delightful occupation, especially when taken in conjunction with "anticipations of the pleasure we may have to bestow on kindred minds with our own, when sharing with them our discoveries and our acquisitions." And the task of describing them has, in the present instance, been considerably lightened by the valuable assistance afforded by many of the most able Botanists of our country, whose names are mentioned, as far as was consistent with the nature of the undertaking, when treating of the respective plants they have tended to illustrate. Mr. Borrer, Mr. W. Wilson, the Rev. Professor Henslow, the Rev. J. M. Berkeley, the Rev. J. S. Tozer, and the Rev. G. E. Smith, have, in an especial manner, rendered service, both by notes and illustrative specimens. The first of these gentlemen has kindly undertaken a complete revision of the genera *Myosotis*, *Rosa*, and *Rubus;* whilst to Mr. Wilson, whose acuteness and botanical ardour are beyond all praise, I am indebted for many important remarks in the present as well as in the preceding edition.

The design of this work would not allow of so many stations being given for the rarer plants as could have been wished: and hence the Author has been rather anxious to indicate the range of the species, than the precise spot where any particular one is found. The admirable *Botanist's Guide* of Messrs. Turner and Dillwyn, and the various local Floras, may, for information on this head, be consulted with great advantage; particularly Mr. Purton's *Midland Flora*, Mr. Jones' *Botanical Tour in Devon and Cornwall*, the Rev. G. E. Smith's *Plants of South Kent*, Mr. Winch's *Essay on the Geographical Distribution of Plants in Northumberland*, Dr. Greville's *Flora Edinensis*, and Wood-

forde's *Catalogue* of the plants of the same neighbourhood, Mr. Hopkirk's *Flora Glottiana*, Dr. Johnston's amusing and instructive *Flora of Berwick-upon-Tweed*, the late Mr. Don's *Plants of Forfarshire;* and Mr. Mackay's *Catalogue of the indigenous Plants of Ireland*, which is the fullest list that has yet appeared of the vegetable productions of our Sister Kingdom.*

The present volume may be said to terminate with the Ferns. A future one, which is nearly ready for publication, will contain the rest of the Orders of the Class *Cryptogamia;* and will be published in such a form, that it may either be considered the second volume of the *British Flora*, or the fifth of Sir J. E. Smith's *English Flora*, and consequently as completing the description of the Plants of our Island.

Glasgow, May 1*st*, 1831.

* In the short period that has elapsed since the publication of the first edition, two other local Floras have appeared; one, *The Plymouth and Davenport Flora*, by Mr. George Banks, F.L.S., a periodical work, most highly creditable to its Author, not only on account of the accuracy and originality of the descriptions, but for the agreeable manner in which they are written, and the interesting information blended with them:—the other, a *Popular Description of the Indigenous Plants of Lanarkshire*, by the Rev. William Patrick, accompanied by an useful Introduction to the study of Botany, and remarks on the Geological formation of that County.

BRITISH FLORA.

CLASS I. MONANDRIA.[1] 1 *Stamen.*

ORD. I. MONOGYNIA.[2] 1 *Style.*

1. Salicórnia. *Perianth* single, turbinate, fleshy, obscurely lobed. *Style* short. *Stigmas* bi-trifid. *Fruit* an one-seeded *Utricle*, included in the enlarged *Perianth.*—*Nat. Ord.* Chenopodeæ, *Vent.*—Named from *sal*, salt, and *cornu*, a horn, from the horn-like branches and saline nature of the plants.

2. Hippúris. *Perianth* single, superior, forming a very indistinct rim to the germen. *Fruit*, a small one-seeded *Nut.*—*Nat. Ord.* Halorageæ, *Br.*—Named from *ἵππος*, *a horse*, and *οὐρά*, *a tail.*

(See *Valeriana rubra* in Cl. III.; *Alchemilla arv.* in Cl. IV.; *Zostera*, in Cl. XXI.; *Chara*, in Cl. XXIV.)

(Ord. 2. Digynia. 2 *Styles.* See *Callitriche* in Cl. XXI.)

MONANDRIA MONOGYNIA.

1. Salicórnia. *Linn.* Glasswort.

1. S. *herbácea*, Linn. (*jointed Glasswort*); stem herbaceous, articulations compressed somewhat thickened upwards and notched, spikes cylindrical slightly tapering at the extremity. *Hook. Scot. i. p.* 1.—*α.* stem erect. *S. herbacea*, *E. Fl. v. i. p.* 2.—*S. annua*,

[1] From *μονος*, *one*, and *ανηρ*, in this sense applicable to the stamen, *one stamen*; which should here, as the stamens in all of the first 20 Classes, be found in the same flower with the pistil. But such is not constantly the case with any of the British plants in this anomalous class. *Hippuris* has often numerous lower flowers destitute of stamens; and many of those of *Salicornia* have *two* stamens. *Chara*, by various authors placed here, is assuredly a cryptogamous plant; *Zostera* has the stamens and pistils separate, as has *Callitriche*, in most instances; hence these two genera are removed to Monœcia.—The really anomalous Genera, such as *Callitriche*, and anomalous species, such as *Valeriana rubra* (which has but one stamen), *Val. dioica*, (which is diœcious, though the rest of the species have 3 stamens in the same flower with the pistil), &c. will, in general, be found noticed at the end of the respective Classes and Orders to which they appear to belong, and they will be referred to the proper stations; as above.

[2] From *μονος*, *one*, and *γυνη*, here made applicable to the *pistil*, or *style*, an essential part of the pistil: or, when the style is so short as not to be visible, the stigmas are counted. The student will do well to bear in mind the meaning of the names applied to the Linnæan Classes and Orders, for they are beautifully expressive of their essential characters.

E. Bot. t. 415.—*S. acetaria, Pallas.*—β. stem procumbent. *S. procumbens, E. Bot. t.* 2475. *E. Fl. v. i. p.* 2.—*S. prostrata, Pallas.*

Salt-marshes, plentiful. *Fl.* Aug. Sept. ⊙.—*Plant* leafless, much branched and jointed; articulations a little thickened upwards, very succulent, shrinking much when dry, in which state the upper extremity of each articulation forms a two-lobed membranous socket or short sheath, which receives the base of the articulation above it. *Spikes* of *flowers* dense, lateral and terminal, equally jointed with the stem, and bearing, at the base of every short articulation, on two opposite sides, a cluster of 3 *flowers*, each composed of a single *perianth*, apparently quite closed at the top, and pierced, as it were, by the bi-or trifid *stigma* and the single or two *stamens:* when two, appearing in succession. Mr. Wilson observes that the central flower (of the *erect* var. at least) has *two* stamens, one placed below, the other above, the laterally-compressed germen; and the side-flowers have only *one*, placed above the germen.

2. S. *radicans*, Sm. (*creeping Glasswort*), stem woody procumbent and rooting, articulations cylindrical spreading and notched at the top, spikes oblong obtuse. *E. Bot. t.* 1691, *& t.* 2467, (*S. fruticosa*). *E. Fl. v. i. p.* 3, *and again p.* 3, (*S. fruticosa.*)

Muddy sea-shores, but rare; on the Norfolk and Sussex coasts. In the Isle of Sheppey, Kent, *Prof. Henslow.* Near Newry, Ireland, *Mr. J. T. Mackay. Fl.* Aug. Sept. ♃.—This scarcely differs from the preceding, except in its more branching, straggling, and *perennial stem*, quite woody below, often growing at the edge of a low muddy bank, and depending from it. The true *S. fruticosa* is a very different plant, and confined to the south of Europe and north of Africa.—The various species of this genus, as well as others belonging to the same natural family, and growing abundantly on the coasts in the south of Europe and north of Africa, yield a vast quantity of soda, so much employed in making both soap and glass; whence their English name, *Glasswort.*

2. Hippúris. *Linn.* Mare's-tail.

1. H. *vulgáris*, Linn. (*common Mare's Tail*); leaves 6—8 or 10 in a whorl linear. *E. Bot. t.* 763. *E. Fl. v. i. p.* 4.

Ditches and, usually, stagnant waters; less frequent in Scotland. *Fl.* June, July. ♃.—*Stem* erect, simple, jointed. *Whorls* of about 8 *leaves*, which are callous at the point. *Flowers* at the base of each of the upper leaves, the lower ones often destitute of stamen. *Germen* oval, inferior; within its minute rim or border, at the summit, which constitutes the calyx, is situated the *stamen*, with its large two-lobed *anther:* when young, having the *style* passing between the two lobes. *Seed* fixed to the top of the cell of the *pericarp*, and thus inverted.—In deep streams of water connecting the little lakes, or *Broads*, at Surlingham, Norfolk, this plant attains to 2 or 3 feet, with the leaves excessively crowded, 3 and even 4 inches in length, pellucid, with an opaque nerve, their points not callous; the whole plant submerged, and consequently barren. Again on Ben-y-gloe, in Scotland, at a considerable elevation from the sea, I have found a variety, the opposite extreme of this, scarcely 4 inches high, and apparently the *H. montana* of *Reich. Ic. t.* 86. The arctic *H. maritima* is distinguished by having many *elliptical* leaves in the whorl.

CLASS II. DIANDRIA. 2 *Stamens.*

ORD. I. MONOGYNIA. 1 *Style.*

* *Perianth double, inferior, monopetalous, regular.*

1. Ligústrum. *Cor.* 4-cleft. *Berry* 2-celled, with the cells 2-seeded.—*Nat. Ord.* Oleineæ, *Hoffm. and Link.*—Named from *ligo*, to *bind;* on account of the use sometimes made of its long and pliant branches.

** *Perianth double, inferior, monopetalous, irregular. Seeds enclosed in a distinct pericarp (Angiospermous).*

2. Verónica. *Cor.* 4-cleft, rotate, lower segment narrower. *Caps.* 2-celled.—*Nat. Ord.* Scrophularinæ, *Juss.*—Name of doubtful origin.

3. Pinguícula. *Cal.* 2-lipped, upper lip of 3, lower of 1, bifid segment. *Cor.* ringent, spurred. *Germen* globose. *Stigma* large, of 2 unequal plates or lobes. *Caps.* 1-celled; *Seeds* attached to a central receptacle.—*Nat. Ord.* Lentibulariæ, *Rich.*—Named from *pinguis, fat;* the leaves being thick and greasy to the touch.

4. Utriculária. *Cal.* 2-leaved, equal. *Cor.* personate, spurred. *Stigma* 2-lipped. *Caps.* globose, of 1 cell; *Seeds* fixed to a central receptacle.—*Nat. Ord.* Lentibulariæ, *Rich.*—Named from *Utriculus*, a little bladder.

*** *Perianth double, inferior, monopetalous, irregular. Seeds* 4, *apparently naked, (closely covered by the pericarp, Gymnospermous.)*

5. Lýcopus. *Cal.* tubular, 5-cleft. *Cor.* tubular; *limb* nearly equal, 4-cleft, upper segment broader, and notched. *Stam.* distant, simple.—*Nat. Ord.* Labiatæ, *Juss.*—Name, from λυκος, a *wolf*, and πους, a *foot*, from a fancied resemblance in the cut leaves of this plant, to a wolf's paw:—*der Wolfsfuss*, in Germ.—In English, *Gypsy-wort*, because the plant yields a black dye, which is employed by Gypsies to render their skin darker.

6. Sálvia. *Cal.* 2-lipped, tubular. *Cor.* labiate, the tube dilated upwards and compressed. *Filaments* with 2 divaricating branches, 1 only bearing a perfect, single cell of an *anther.*—*Nat. Ord.* Labiatæ, *Juss.*—Named from *salvo*, to *save* or heal, in allusion to its balmy or healing qualities.

**** *Perianth double, superior.*

7. Circæa. *Cal.* 2-leaved, but united into a short tube at the base. *Cor.* of 2 petals. *Caps.* 2-celled; cells 1-seeded.—*Nat. Ord.* Onagrariæ, *Juss.*—Named from the enchantress *Circe*, either from the prettiness of its flowers, or as some say, from its growing in damp, shady places, where plants used for incantations are found.

***** *Perianth single, or none.*

8. Fráxinus. *Cal.* 0., or 4-cleft. *Cor.* 0., or of 4 petals. *Caps.* 2-celled, 2-seeded, compressed and foliaceous at the extremity. *Seeds* solitary, pendulous. (Some flowers without stamens.) *Nat. Ord.* Oleineæ, *Hoffm. and Link.*—Named from φραξις, a *separation*, in allusion to the facility with which the wood may be split.

9. Lémna. *Perianth* single, monophyllous, membranaceous, urceolate. *Fruit* utricular.—Fronds *without distinct stem or leaves, floating on the surface of the water, and increasing, not only by seeds, but far more abundantly, by* gemmæ *or* buds, *concealed in lateral clefts of the parent frond, which growing out, on 2 opposite sides into new plants, and they again producing offspring in the same way, while still attached to their parent, present a most curious appearance.*[1]—*Nat. Ord.* Pistiaceæ, *Rich.*—Name, λεμμα, of the Greeks, from λεπις, a *scale.*

10. Cládium. *Perianth* single, glumaceous. *Glumes* of 1 piece or valve, 1-flowered, imbricating ; outer ones sterile. *Fruit*, a *nut* with a loose external coat, destitute of bristles at the base.—*Nat. Ord.* Cyperaceæ, *Juss.*—Named from κλαδος, a *branch ;* so called, perhaps, from the many branches bearing spikelets.

(See *Salicornia* in Cl. I. *Schœnus*, Cl. III. *Carex*, Cl. XXI. *Lepidium* and *Coronopus*, *Cl.* XV.)

ORD. II. DIGYNIA. 2 *Styles.*

1. Anthoxánthum. *Cal.* of 2 valves, glumaceous, 1-flowered. *Cor.* double, each of 2 valves ; the *ext.* awned ; the *int.* small, awnless.—*Nat. Ord.* Gramineæ, *Juss.*—Name, ανθος, a *flower*, and ξανθος, *yellow ;* from the yellowish hue of the spikes, especially in age.

See *Hierochloe*, Cl. III.)

DIANDRIA MONOGYNIA.

1. Ligústrum. *Linn.* Privet.

1. L. *vulgáre*, Linn. (*Privet*) ; leaves elliptico-lanceolate, panicle compact. *E. Bot. t.* 764. *E. Fl. v. i. p.* 13.

Thickets, and more frequently in hedges. *Fl.* June, July. ♃.—A *bush* with opposite, evergreen *leaves*, which, as the plant bears clipping, is frequently planted for fences. *Flowers* small, white. *Berries* black, globose.

[1] For a more complete analysis and history of this genus than I am here able to give, see *Lemna minor, trisulca and gibba*, in the New Series of Flora Londinensis ; and for an admirable account of the germination of the seeds in the latter species, see a Memoir by W. Wilson, Esq. in Part II. of the *Botanical Miscellany.*

2. Verónica. *Linn.* Speedwell.

* *Spikes or racemes terminal.*[1] (*Roots perennial.*)

1. V. *spicáta*, Linn. (*spiked Speedwell*), raceme spicate, leaves oblong obtuse serrated pubescent, the lower ones broader ovate or obovate and stalked, stem ascending branching only at the very base. *E. Bot. t.* 2. *E. Fl. v. i. p.* 17.—β; stem-leaves broader, approaching to elliptical. *V. hybrida, Linn.*—*E. Bot. t.* 673. *E. Fl. v. i. p.* 17.

Rare. On dry chalky pastures about Newmarket and Bury.—β. in Lancashire, and in Wales, where, in addition to the station discovered for it in Ray's time, *Mr. Wilson* finds it at Ormeshead, and at Gloddarth near Conway. *Fl.* July, Aug. ♃.—The *V. hybrida* seems indeed scarcely deserving of being commemorated as a *var.*, for it differs only in its more luxuriant growth, depending probably upon soil. The *capsule* is obcordate, hairy, terminated by a long *style*.

2. V. *serpýllifolia*, Linn. (*thyme-leaved Speedwell*), raceme somewhat spiked many-flowered, leaves broadly ovate or elliptical very obtuse nearly entire glabrous, capsules inversely reniform as long as the style. *E. Bot. t.* 1075. *E. Fl. v. i. p.* 20.—β. *alpina;* stems prostrate often rooting, racemes short. *V. humifusa, Dicks. in Linn. Trans. v. ii. p.* 288.

Pastures and roadsides, abundant.—β. On the Highland Mountains: and on Snowdon; *Mr. Wilson*. Cheviots; *Mr. Winch*. *Fl.* May—July. ♃.—The *var.* β. is a singular and very beautiful one, and is often gathered and mistaken for *V. alpina*, which it approaches in the rich colour of its flowers. In both, the *stems*, and sometimes the *leaves*, are more or less pubescent.

3. V. *alpína*, Linn. (*alpine Speedwell*); racemes corymbose few-flowered, leaves elliptico-ovate serrated, calyx and bracteas ciliated, capsule obovate notched tipped with the very short style. *E. Bot. t.* 484. *E. Fl. v. i. p.* 19.

Near the summits of the Highland mountains, but rare. *Fl.* July, Aug. ♃.—About 4 inches high, turning black when dry. Best distinguished from all the varieties of *V. serpyllifolia* by its more upright growth, larger, more acute, and more decidedly serrated *leaves*, by the fewer, more dense, brighter blue *flowers*, which are more hairy about the *calyx* and *bracteas*, and by the obovate *capsule* with its very short *style*.

4. V. *saxátilis*, Linn. (*blue Rock Speedwell*); raceme lax few-flowered corymbose, leaves elliptical subserrate, stems spreading, capsule ovate its valves bifid. *E. Bot. t.* 1027. *E. Fl. v. i. p.* 19.

Growing on perpendicular exposed rocks in Scotland, rare. Ben Lawers, above Loch-na-gat; Mael Greadha, on Craig Cailliach and Mael Duncrosk; *Mr. Wilson;* all in the Breadalbane range. *Fl.* July. ♃.—

[1] V. *arvensis*, *triphyllos*, and *verna*, are placed in the third division, on account of their *annual roots*, although their inflorescence may more strictly be considered *spicate* or *racemose*, than as consisting of solitary and axillary flowers.

Stems slender, procumbent, woody, much branched. *Leaves* glabrous, bright green, when dry almost black, but semipellucid, thin, and distinctly veiny. *Flowers* large, of a most brilliant blue, in *corymbs*.

5. V. *fruticulósa*, Linn. (*flesh-coloured Speedwell*); raceme many-flowered subspicate, leaves elliptico-lanceolate subserrated coriaceous, stems ascending woody branched at the base, capsule ovate its valves bifid. *E. Bot. t.* 1028. *E. Fl. v. i. p.* 18.

On Ben Cruachan, Argyleshire; *Dr. Walker;* upon Ben Lawers, *Mr. Brown* (Smith in Engl. Flora). *Fl.* July. ♃.—I am not aware that any other Botanist has ever detected this plant truly wild in the British dominions than those just mentioned: nor have I been able to see a native specimen. As a plant, I believe the species to be truly distinct from *V. saxatilis*, with which, however, it has been confounded by some authors. The *stems* are more robust and erect than in the preceding. *Leaves* rigid, pale green, opaque even when dry, elliptico-lanceolate. *Racemes* more elongated, especially when in fruit. *Flowers* flesh-coloured in the plant as I have seen it growing in Switzerland and when cultivated in our gardens. *Fruit* as in *V. saxat.*, obovate, tipped with a *style* longer than itself; its valves bifid.

** *Racemes axillary.* (*Root perennial.*)

6. V. *scutellàta*, Linn. (*Marsh Speedwell*); racemes alternate, pedicels divaricated reflexed in fruit, leaves linear somewhat toothed, stem nearly erect. *E. Bot. t.* 782. *E. Fl. v. i. p.* 9.

Wet places and sides of ditches. *Fl.* July, Aug. ♃.—*Racemes* nearly opposite. *Capsule* of 2, flattened, orbicular, membranous lobes. *Flowers* flesh-coloured with darker bluish veins.

7. V. *Anagállis*, Linn. (*Water Speedwell*); racemes opposite, leaves lanceolate serrated, stem erect. *E. Bot. t.* 781. *E. Fl. v. i. p.* 21.

Ditches and watery places; less frequent in Scotland than in England.—*Fl.* July, Aug. ♃.—Intermediate in appearance, between *V. scutell.* and *V. Beccab.* yet abundantly distinct from both *Stems* succulent, a foot or more high. *Leaves* varying somewhat in width. *Racemes* long, many-flowered. *Pedicels* short, never reflexed. *Flowers* bluish or inclining to purple.

8. V. *Beccabúnga*, Linn. (*Brooklime*); racemes opposite, leaves elliptical obtuse subserrated glabrous, stem procumbent at the base and rooting. *E. Bot. t.* 635. *E. Fl. v. i. p.* 20.

Ditches and watercourses, frequent. *Fl.* Summer months. ♃.—Whole plant glabrous and very succulent. *Racemes* of many bright blue *flowers*.

9. V. *officinális*, Linn. (*common Speedwell*); racemes spicate, leaves broadly ovate serrated rough with pubescence, stem very downy procumbent, capsule obovate deeply notched. *E. Bot. t.* 765. *E. Fl. v. i. p.* 22.—β; nearly glabrous. *E. Fl. v. i. p.* 22. —*V. Allionii, D. Don. MSS. Hook. Scot. v. i. p.* 7.

Abundant in woods and pastures, especially in dry situations.—β. On mountains in Scotland and Ireland. *Fl.* May—July. ♃.—A very variable plant, especially in size.[1] *Leaves* astringent and bitter; hence sometimes used medicinally and made into tea.

10. V. *hirsúta*, Hopk. (*small hairy Speedwell*); racemes slender spiked, leaves ovato-lanceolate acute slightly serrated with a few scattered hairs, stem procumbent hairy, capsule obcordate entire. *Hopk. Fl. Glott. p.* 9. *E. Fl. v. i. p.* 22.—*V. setigera, D. Don, Descr. of Rare Pl. of Scotl. p.* 4.

Dry heathy places in Carrick, Ayrshire; *Mr. James Smith. Fl.* June. ♃.—I introduced this with much hesitation into the *Flora Scotica*. It has all the appearance of a starved plant of *V. officinalis*, and the *flowers* are very generally abortive. The *fruit* certainly differs in wanting the deep notch at the extremity; and the plant remains unaltered, in this respect, for a succession of years in cultivation.

11. V. *montána*, Linn. (*Mountain Speedwell*); racemes lax few-flowered, leaves cordato-ovate petiolate serrated, stem hairy all round, capsule orbicular two-lobed membranous much larger than the calyx. *E. Bot. t.* 766. *E. Fl. v. i. p.* 23.

Moist woods, not unfrequent. *Fl.* May, June. ♃.—*Stems* a foot and more long, weak, trailing. *Leaves* large, on stalks about equal to them in length. *Capsules* large, quite flat, and resembling those of a *Biscutella*, veiny, their edges denticulate and slightly ciliated. It is strange, with such characters, that this should ever be confounded with the following species.

12. V. *Chamædrys*, Linn. (*Germander Speedwell*); racemes elongated many-flowered, leaves cordato-ovate sessile inciso-serrate, stem bifariously hairy, capsule obcordate shorter than the calyx. *E. Bot. t.* 623. *E. Fl. v. i. p.* 23.

Woods, pastures and hedge-banks, frequent. *Fl.* May, June. ♃.—*Stem* procumbent, as in the last species, having two opposite hairy lines, and these lines taking different sides above and below each pair of leaves, or decussate. *Leaves* wrinkled, deeply cut in a subalpine *var.* found by Mr. Wilson in North Wales. *Flowers* large, numerous, very bright blue, greeting us at an early season of the year, and hence rendering the plant a general favourite.

**** Flowers axillary, solitary. (Root annual.)*

13. V. *hederifólia*, Linn. (*Ivy-leaved Speedwell*); leaves all petiolate cordate with 5—7 large teeth or lobes, segments of the calyx cordate ciliated, capsule of two turgid lobes, stem procumbent. *E. Bot. t.* 784. *E. Fl. v. i. p.* 25.

[1] Mr. Wilson finds two singular varieties near Aber waterfall, North Wales: both dwarf, 3—4 inches in length, and both having scattered hairs on the stem and leaves; one has these leaves ovate, acute, rigid, tapering gradually into a short footstalk: the other has them rotundate, thin, and membranaceous, distinctly stalked.

Fields and hedge-banks, common. *Fl.* April—June. ⊙.—*Stem* weak. *Leaves* rather fleshy, slightly hairy, the upper young leaves alone sessile or nearly so; the terminal tooth or lobe the largest. *Peduncles* longer than the leaves, recurved when bearing fruit. *Caps.* of two, rounded, glabrous lobes, each lobe having 2 large, black, transversely wrinkled, oval, gibbous *seeds*, which are hollowed on the under side.

14. V. *agréstis*, Linn. (*green procumbent field Speedwell*); leaves all petiolate cordato-ovate inciso-serrate as long as the flower-stalks, segments of the calyx oblong obtuse, stem procumbent, capsule of 2 turgid keeled lobes, cells about 6-seeded. *E. Fl. v. i. p.* 24. *Borr. in E. Bot. Suppl. t.* 2603.

Fields and waste places, abundant. *Fl.* Apr.—Sept. ⊙.—Prostrate. *Stems* 3—4 inches long, slightly hairy. *Peduncles* longer than the leaves. *Fruit* of two round tumid lobes, much smaller than the calyx. *Seeds* large, cupped.

15. V. *políta*, Fries, (*grey procumbent field Speedwell*); leaves all petiolate cordato-ovate inciso-serrate shorter than the flower-stalks, segments of the calyx ovate acute, stem procumbent, capsule of 2 turgid lobes, cells many-seeded. *Reich. Iconogr. v. iii. p.* 45. *t.* 246. — *V. agrestis*, *E. Bot. t.* 783. *Hook. Scot. i. p.* 7.—β; flowers larger, whole plant more luxuriant. *V. persica*, Poir, (according to Arnott). — *V. filiformis*, *Brit. Fl. ed. i. p.* 6. *Johnst. Fl. of Berw. p.* 225. *cum ic.* (*not of Vahl.*)

Cultivated fields and waste places, often with the preceding.—β. Sussex, (not wild,) *Mr. Borrer.* Cultivated grounds, Berwickshire, *Dr. Johnston.* *Fl.* throughout the summer. ⊙.—Mr. Borrer has well illustrated this and the foregoing, *V. agrestis*, in the Supplement to *E. Bot. t.* 2603. These two and the *V. opaca* of Fries, (with spathulate segments to the calyx,) border very closely upon each other, and are probably often confounded by Botanists. I have followed Mr. Arnott in considering the *V. filiformis* of the first edition, as a *var.* of the present.

16. V. *arvénsis*, Linn. (*Wall Speedwell*); leaves cordato-ovate serrated the lower ones petiolate the upper or bracteas sessile lanceolate longer than the flowers which are subspicate, stems ascending. *E. Bot. t.* 734. *E. Fl. v. i. p.* 24.

Fields and walls, plentiful.. *Fl.* in the spring months and in early summer. ⊙.—Very different from the last, especially in its inflorescence, which, if the upper leaves be considered bracteas, as they really are (for they differ both in size and shape from the cauline ones), is truly racemose or subspicate. The same may be said of the two next species, and some continental ones, especially *V. acinifolia.*

17. V. *triphýllos*, Linn. (*blunt-fingered Speedwell*); leaves broadly ovate incised, lowermost ones petiolate, upper or bracteas sessile digitate, the segments obtuse, flowers subracemose, the pedicels longer than the bracteas or the calyx. *E. Bot. t.* 26. *E. Fl. v. i. p.* 25.

Rare; in sandy fields, about Bury and on the confines of Norfolk and Suffolk. Yorkshire? *Mr. Tofield.* *Fl.* Apr. ⊙.—3—4 inches high with spreading branches. *Flowers* a very deep blue, the lowermost often on very long pedicels.

18. V. *vérna*, Linn. (*vernal Speedwell*); leaves inciso-pinnatifid the upper ones or bracteas lanceolate entire, flowers subracemose, pedicels shorter than the calyx. *E. Bot. t.* 25. *E. Fl. v. i. p.* 26.

Very rare. Discovered about Bury and Thetford, Suffolk, by *Sir John Cullum, Bart.* *Fl.* April. ⊙.—A very small, upright, scarcely branching plant, allied to *V. arvensis*.

3. Pinguícula. *Linn.* Butterwort.

1. P. *vulgáris*, Linn. (*common Butterwort*); spur subulato-cylindrical, as long as the veinless limb of the corolla whose segments are very unequal rounded even and all entire. *E. Bot. t.* 70. *E. Fl. v. i. p.* 28.

Bogs, moist banks, and heaths; most abundant in the North. *Fl.* June. 4.—*Foliage* radical, covered with minute raised crystalline points, fleshy, the margins involute. *Scapes* single-flowered. *Flowers* purple, very handsome, drooping; palate covered with white, compactly jointed hairs. *Anthers* 1-celled, vertical, placed just beneath the large horizontal plate or lobe of the *stigma*. *Style* short. *Caps.* ovate, one-celled, bursting half way into 2 valves. *Seeds* numerous, oblong, rough. —The leaves are said to coagulate milk, whence the English name.

2. P. *grandiflóra*, Willd. (*large-flowered Butterwort*); spur notched subulato-cylindrical as long as the veined limb of the corolla whose segments are very unequal truncated, the middle one of the lower lip notched. *E. Bot. t.* 2184. *E. Fl. v. i. p.* 29.

Western part of the county of Cork, in marshy ground, *Mr. Drummond:* and at Kenmare, *Mr. W. Wilson.* *Fl.* May. 4.—This plant, apparently as rare upon the continent as in Britain, and perfectly distinct from *P. vulgaris*, may be easily cultivated for a succession of years. As in the *P. vulgaris*, the old leaves die away in winter, and buds or hybernacula are formed, which expand into perfect individuals in the spring. Few plants can exhibit a more beautiful appearance, early in the year, than a cluster of *P. grandiflora*, blossoming under the shelter of a common frame. It is a mass of large deep and rich purple-coloured flowers, well contrasted by the pale but bright hue of the leaves.

3. P. *lusitánica*, Linn. (*pale Butterwort*); spur cylindrical obtuse decurved shorter than the almost equal limb of the corolla, leaves veiny, and as well as the scape hairy. *E. Bot. t.* 145. *E. Fl. v. i. p.* 28.

Marshy places and wet moors, mostly confined to the west side of the kingdom: never, I believe, found on the east side, and rarely, if ever, in the interior. Plentiful in the Hebrides and Ireland: but most abundant in the extreme north of Scotland, near Cape Wrath, growing

among *Jungermannia cochleariformis* and *Arbutus alpina*. *Fl.* June, July. 4.—Much smaller than the two last, with very pale purplish-yellow *flowers;* and *leaves* of a thin, not succulent, texture.

4. Utricularia. *Linn.* Bladderwort.[1]

1. U. *vulgáris*, Linn. (*greater Bladderwort*); spur conical, upper lip as long as the projecting palate, leaves pinnato-multifid. *E. Bot. t.* 253. *E. Fl. v. i. p.* 30.

Ditches and deep pools, not unfrequent. *Fl.* June, July. 4.—*Roots* much branched. *Shoots* or *runners* floating horizontally in the water, clothed with capillary multifid *leaves*, bristly at the margin and bearing little cristate bladders. *Scape* erect, 4—6 inches high, with 6—8 bright yellow *flowers* in a raceme. Lower *lip* convex, much larger and broader than the upper one, and having a projecting palate, closing the mouth. *Spur* short, deflexed. *Filaments* curved, thick, resembling those of *Pinguicula*. *Stigma* large.

2. U. *intermédia*, Hayne, (*intermediate Bladderwort*); spur conical, upper lip twice as long as the palate, leaves tripartite, the segments linear dichotomous. *E. Bot. t.* 2489. *E. Fl. v. i. p.* 30.

Ditches and deep pools, much less frequent than the preceding. About Dublin and Bantry, in Ireland, and in Rescobie Lake, Forfar, also in Elginshire, *Rev. G. Gordon*. *Fl.* June, July. 4.—This has probably been passed by as the *U. vulgaris:* but its *flowers* are smaller, of a paler yellow, and have a longer *lip*. The *stems* are more leafy, and the bladders arise from branched stalks, not from the leaves. It propagates itself by buds or gemmæ which proceed from the ends of the shoots, as does *U. minor*, and perhaps *U. vulgaris*.

3. U. *mínor*, Linn. (*lesser Bladderwort*); spur extremely short obtuse keeled, upper lip as long as the palate, leaves subtripartite, the segments linear dichotomous. *E. Bot. t.* 254. *E. Fl. v. i. p.* 31.

Ditches and pools, rare; though not unfrequent in many parts of Scotland, extending its range even to Skye. *Fl.* June, July. 4.—Smaller than the last. *Vesicles* mixed with the leaves, which latter are glabrous at the margin. *Flowers* very pale yellow, and small. *Spur* scarcely any. Lower *lip* almost plane; palate scarcely closing the mouth, not projecting beyond the lip.

[1] The British species of this Genus are all aquatics: and their roots, stems and even leaves are furnished with numerous, membranaceous, reticulated *vesicles*, which, according to Hayne, are filled with water, till it is necessary the plant should rise to the surface and expand its blossoms above that fluid. The vesicles are then found to contain only air, by aid of which the plant floats: this air again in Autumn gives place to water, and the plant descends to ripen its seeds at the bottom. Mr. Wilson observes, on the bladders of *U. vulgaris*, that "they have *an orifice closed by an elastic valve, opening inwards*, and of much thinner texture than the bladder, to which it is attached, where the crest is placed. Aquatic insects often enter these bladders, and are, of course, confined there."

5. Lýcopus. *Linn.* Gipsy-wort.

1. L. *europæus*, Linn. (*common Gipsy-wort or Water Horehound*); leaves deeply and irregularly pinnatifido-serrate. *E. Bot. t.* 1105. *E. Fl. v. i. p.* 34.

Ditches and river-banks; less frequent in Scotland. *Fl.* June, July. 4.—*Stems* 2 feet high, erect, four-sided, as in the class *Didynamia*, Ord. *Gymnospermia*, to which very natural groupe, this and the following Genus belong, though they are placed here in consequence of having but two stamens. *Leaves* opposite, nearly sessile, ovato-lanceolate, wrinkled, very deeply sinuato-serrate, almost pinnatifid. *Flowers* small, sessile, in dense *whorls* at the base of the superior leaves, whitish with purple dots, hairy within.

6. Sálvia. *Linn.* Sage or Clary.

1. S. *praténsis*, Linn. (*Meadow Clary or Sage*); lower leaves cordato-oblong irregularly crenate stalked, those of the stem sessile semiamplexicaul, bracteas very small, corolla thrice as long as the calyx glandular and viscid at the summit. *E. Bot. t.* 153. *E. Fl. v. i. p.* 34.

Dry meadows and about hedges, England, but rare; near Cobham in Kent. *Fl.* July. 4.—Varying in size, from 6 inches to 2 feet high. Commonly cultivated in gardens. I have never seen native specimens.

2. S. *verbenáca*, Linn. (*Wild English Clary or Sage*); leaves sinuated and serrated, corolla much narrower and scarcely longer than the calyx. *E. Bot. t.* 154. *E. Fl. v. i. p.* 35.

Dry pastures and banks, especially in a chalky or gravelly soil: not uncommon in England, but only found about Edinburgh in Scotland. *Fl.* June, July. 4.—One to two feet high. Lower *leaves* petiolate, ovate, upper ones sessile and acute, less lobed, but more serrated: all wrinkled with veins. *Bracteas* 2, under each whorl of flowers, cordate, acute, entire, ciliated. *Cal.* hairy, segments mucronate. *Cor.* small in proportion to the calyx, purple. *Upper lip* concave, compressed.

7. Circæa. *Linn.* Enchanter's Nightshade.

1. C. *lutetiána*, Linn. (*common Enchanter's Nightshade*); stem erect pubescent, leaves ovate acuminate toothed opaque longer than the petiole. *E. Bot. t.* 1056. *E. Fl. v. i. p.* 15.

Woods and coppices in shady situations, common. *Fl.* June, July. 4.—*Root* creeping. *Stem* 1—1½ foot high. *Leaves* scarcely cordate at the base, upper ones narrow-ovate. *Racemes*, as well as the stems, more or less branched. *Flowers* white or rose-coloured. *Calycine* leaflets reflexed. *Petals* obcordate, patent. *Germen* very hispid, the hairs hooked at the extremity. Found also in Canada and Nepal.

2. C. *alpína*, Linn. (*alpine Enchanter's Nightshade*); stem ascending nearly glabrous, leaves cordate toothed shining as long as the petioles. *E. Bot. t.* 1057. *E. Fl. v. i. p.* 16.—*β. major*,

larger and more pubescent. *E. Fl. v. i. p.* 16.—*C. intermedia, Ehrh.*

Woods, coppices and stony places, especially by the sides of lakes in the north of England and Scotland. β. In similar situations. *Smith.* —*Fl.* July, Aug. 4.—This comes very near, it must be confessed, to the preceding: but is much smaller, the *leaves* decidedly cordate and the *petioles* longer. *Fruit*, which is abundant on *C. lutetiana*, I have never observed on this plant. The flowers are the same in both, as to structure and colour. I have not seen the *var.* β. of Smith in this country; but if it be the same as the *C. intermedia* of continental authors, it is quite true, that, though larger in the stem and leaves, it yet accords with the essential character of our *C. alpina.*

8. Fráxinus. *Linn.* Ash.

1. F. *excélsior*, Linn. (*common Ash*); leaves pinnated, leaflets ovato-lanceolate acuminate serrated, flowers without either calyx or corolla. *E. Bot. t.* 1692. *E. Fl. v. i. p.* 14.—β. *heterophylla*, (*simple-leaved Ash*); leaves simple and pinnated. *F. heterophylla, Vahl.*—*E. Bot. t.* 2476. *E. Fl. v. i. p.* 14.—*F. simplicifolia, Willd.*—*F. excelsior, var.* 2. *With.*

Woods and hedges throughout the country. β. Rare in England. *Smith.* I have specimens, from *Mrs. Griffiths*, gathered in Devonshire. *Fl.* in April and May, before the leaves appear. ♄.—One of the noblest of our trees, remarkable in old individuals for the curving upwards of the extremities of their lower pendent branches. There are many varieties. The *weeping Ash* is said to have been first discovered in a field at Gamlingay. By Loch Lomond side the trees vary much in the width of the leaflets, some have them all ovate, others quite lanceolate. The *F. heterophylla* may be considered a sort of monstrosity, often with the leaflets united so as to form one single leaf. The *flowers* are very simple. There is no *calyx*, no *corolla*. The *pistil* and *stamens*, often one of each, are sometimes separated, and rise at once from the extremity of the flower-stalk.—The wood is very valuable for many purposes, especially for implements of husbandry, the young copse-wood for making hurdles, and the older for hop-poles. The roots are injurious to pastures by their spreading to so great an extent, and extracting the nourishment from the soil.

9. Lémna. *Linn.* Duckweed.

1. L. *trisúlca*, Linn. (*Ivy-leaved Duckweed*); fronds thin elliptico-lanceolate caudate at one extremity, at the other serrated, roots solitary. *E. Bot. t.* 926. *E. Fl. v. i. p.* 32.

Clear stagnant waters. Less frequent in Scotland than in England. *Fl.* June, July. ⊙.—*Fronds* ½ to ¾ of an inch in length, pellucid at the margins, reticulated. *Roots* solitary, tipped at the extremity, as are those of the rare and beautiful aquatic, *Pontederia azurea*, with a small *sheath.*

2. L. *mínor*, Linn. (*lesser Duckweed*); fronds nearly ovate compressed, roots solitary. *E. Bot. t.* 1095. *E. Fl. v. i. p.* 32.

Stagnant waters, common.—*Fl.* July. ⊙.—About a line or a line

and a half long; of a rather thick and succulent, but compact texture, slightly convex beneath. This is the most abundant of all the species, covering the surface of ditches and harbouring numerous insects and molluscæ, the food of ducks and other waterfowl, whence the English name of *Duckweed.* The young fronds constitute the *Lemna arhiza* of the French authors. The *capsule* is single-seeded; *seed* transverse, with its hilum "directed towards the narrow end of the frond." *Wilson.*

3. L. *polyrhíza,* Linn. (*greater Duckweed*); fronds obovato-rotundate compressed, roots numerous clustered. *E. Bot. t.* 2458. *E. Fl. v. i. p.* 33.

Stagnant waters. *Flowers* unknown in Britain. ⊙.—The largest of all the species, half an inch long and nearly as broad, succulent, firm, faintly striated; a little convex below, where, and at the margin above, it is of a deep purple colour. *Roots* numerous from a central point. The fructification of this species is a great desideratum.

4. L. *gíbba,* Linn. (*gibbous Duckweed*); fronds obovate nearly plane above, hemispherical beneath, roots subsolitary. *E. Bot. t.* 1233. *E. Fl. v. i. p.* 32.

Stagnant water, but not very frequent. Rare in Scotland. *Fl.* June —Sept. ⊙.—Size of *L. minor,* but readily distinguished by its gibbous or even hemispherical lower surface, which is moreover white, pellucid, and beautifully cellular, the cells filled with air, (*Wilson*): upper side plane, green, opaque. "*Capsule* 4-seeded. *Seeds* furrowed, not transversely placed, but with the hilum towards the top of the capsule." *Wilson.*

10. Cládium. *Schrad.* Twig-rush.

1. C. *Maríscus,* Br. (*prickly Twig-rush*); panicle much divided leafy, spikelets capitato-conglomerate, stem rounded leafy, margins of the leaves and keel rough. *E. Bot. t.* 950, (*Schœnus Mariscus, L.*) *E. Fl. v. i. p.* 36.

Boggy and fenny places, in several parts of England, as in Norfolk, Cambridge, Kent, &c.; Cheshire. *Mr. Wilson.* Plentiful in Galloway, Scotland, *Mr. J. Mackay,* 1801.—*Fl.* July, Aug. 4.—In habit very different from *Schœnus,* as is the fruit. *Plant* 3—5 feet high, leafy: *Leaves* rough, almost prickly at the margin and keel. *Glumes* ovate, brown, 6—7 in an ovate *spikelet;* inner ones the longest, generally the two or sometimes three innermost ones floriferous; of which one ("sometimes 2, more rarely all," *Wilson*) bears a coated *nut,* almost as large as the spikelet. *Stigmas* generally two, sometimes cloven. (*Wilson*).

DIANDRIA DIGYNIA.

11. Anthoxánthum. *Linn.* Vernal-grass.

1. A. *odorátum,* Linn. (*sweet-scented Vernal-Grass*); panicle spiked oblong, flowers upon partial stalks and longer than their awns. *E. Bot. t.* 647. *E. Fl. v. i. p.* 37.

Meadows, woods, and pastures, abundant, often very alpine. *Fl.* May, June. 4.—A foot high, yielding an agreeable smell in the act of drying, like that of *Woodruff* (*Asperula odorata*), and giving the well-known scent to new-made hay. *Leaves* short. *Panicle* compact, spiked, yellow in age. *Valves* of the *calyx* very unequal: this calyx Mr. Brown justly considers as 3-flowered, and what are here called the two outer valves of a double corolla, as two imperfect outer and lower flowers, each reduced to a single awned valve; while the two inner awnless valves constitute a central perfect flower. *Stamens* only 2, in which particular it differs from all our other grasses. Mr. Wilson observes, that the germen is spurred at the base, and that there is no scale there, as in most other grasses.

CLASS III. TRIANDRIA. 3 *Stamens.*

ORD. I. MONOGYNIA. 1 *Style.*

* *Flowers superior.*

1. Valeriána. *Cal.* a thickened margin to the top of the germen, at length unfolding into a feathery *pappus*. *Cor.* monopetalous, 5-cleft, gibbous or spurred at the base. *Fruit* 1-seeded, crowned with the feathery *pappus*.—*Nat. Ord.* Valerianeæ, *De C.*—Named from *valeo, to be powerful*, on account of the medicinal effects.

2. Fédia. *Cal.* small, unequally toothed, crowning the fruit. *Cor.* monopetalous, 5-cleft, gibbous at the base. *Capsule* indehiscent, 3-celled, 3-seeded: 2 *cells* generally abortive.—*Nat. Ord.* Valerianeæ, *De C.*—Name given by Adanson, but its meaning is not accurately known: according to Smith, *Fedus* is synonymous with *Hædus*, a *kid*.

3. Crócus. *Perianth* coloured; *tube* very long; *limb* cut into 6 equal segments. *Stigmas* 3-lobed, plaited.—*Nat. Ord.* Irideæ, *Juss.*—Named from κροκη, a *thread* or filament, from the appearance of the saffron of the shops, which is the dried stigmas of *Crocus sativus*.

4. Trichonéma. *Perianth* petaloid, in 6, deep, equal segments; *tube* shorter than the *limb*. *Filaments* hairy. *Stigma* bipartite, slender. *Seeds* globose.—*Nat. Ord.* Irideæ, *Juss.*—Named from θριξ, a *hair*, and νημα, a *filament*.

5. Iris. *Perianth* single, petaloid, 6-cleft, each alternate segment longer and reflexed. *Stigmas* 3, petaloid, covering the stamens.—*Nat. Ord.* Irideæ, *Juss.*—Named from the beautiful and varied colours of its flowers.

** *Flowers inferior, glumaceous*[1] (*dry and chaffy*). *Seed one.*

6. Cypérus. *Spikelets* two-ranked, many-flowered; *glumes* of one valve, keeled, mostly all fertile, equal. *Bristles* none. *Style* continuous and deciduous.—*Nat. Ord.* Cyperaceæ, *Juss.*—Named from κυπειρος of the Greeks, which was given to one of this genus.

7. Schœnus, *Spikelets* two-ranked, 1—3 flowered, outer *glumes* smaller, empty. *Bristles* small or none. *Style* deciduous.—*Nat. Ord.* Cyperaceæ, *Juss.*—Name from κοινος, or σκοινος, a *cord*, because a kind of cordage was anciently made from plants of this tribe.

8. Rhynchóspora. *Spikelets* few-flowered, the *glumes* of one valve, imbricated on all sides, the lower ones smaller, empty. *Bristles* several, included, inversely toothed. *Style* subulate, bifid, spreading at the base. *Nut* crowned with the persistent, more or less articulated, *style.*—*Nat. Ord.* Cyperaceæ, *Juss.*—Named from ρυγχος, a *beak*, and σπορα, a *seed*. (Very different in habit from *Eleocharis*, but too near in generic character.)

9. Scírpus. *Glumes* of one valve, imbricated on all sides, equal, 1 or 2 of the outer ones sometimes sterile. *Bristles* sometimes wanting. *Style* continuous, deciduous, leaving only a small mucro. —*Nat. Ord.* Cyperaceæ, *Juss.*—Name, according to Théis from *Cirs*, in Celtic, which makes *Cors* in the plural, whence *chorda* in Latin, and *cord* in English; the stems having been formerly employed for the same purposes as those of *Schœnus*.

10. Blýsmus. *Spikelets* bracteated, arranged on a zigzag rachis into a distichous compressed *spike*. *Glumes* of one valve, imbricated on all sides, the outermost gradually the largest, empty. *Bristles* several or none. *Fruit* compressed, oval, gradually tapering into the persistent *style.*—*Nat. Ord.* Cyperaceæ, *Juss.* —Named from βλυσμος, *source* or *spring*, near which the species usually grow.

11. Eleócharis. *Glumes* of one valve, imbricated on all sides, uniform, scarcely any empty. *Bristles* (4—12) toothed, rarely none. *Style* 2—3-fid, its dilated base jointed upon the germen.

[1] This little groupe (with the exception of *Nardus*, which is a grass) together with *Cladium* in the 2d Class and *Kobresia* and *Carex* in the 21st, constitute the Nat. Ord. *Cyperaceæ:* and the structure of their flowers is so different from that of our other British plants, that the same terms can hardly be applied to their coverings. They are collected into little *spikes*, and each within a chaffy *scale*, here called, as in E. Flora, a *Glume*, (*bractea* in Lindl. Syn.); within this, is often another covering (the true *perianth*,) membranous and urceolate in *Carex*, in the present groupe consisting of hairs or bristles, which accompany the fruit, and are called hypogynous; but Mr. Wilson has proved that they are not placed immediately at the base of the germen, between it and the stamens, as Smith supposes, (E. Fl. v. i. p. 50.) but on the outside of the latter; hence Mr. Brown rightly looked upon them as the true perianth of the flower.

Nut mostly lenticular, crowned with the broad base of the indurated style.—*Marsh plants.* Stems *simple, leafless, sheathed at the base.* Spike *solitary, terminal, erect, not leafy. Br.—Nat. Ord.* CYPERACEÆ, *Juss.*—Name, ἕλος, ἕλεος, *a marsh*, and χαιρω, *to delight*, from its place of growth.—This genus, if it ought to be kept distinct from *Scirpus*, is better distinguished by its solitary spike than by any character taken from the jointed or dilated base of the style. It is again divided by some Botanists; and the genera *Isolepis* Br. and *Eleogiton* Link, constituted.

12. ERIÓPHORUM. *Glumes* of one valve, imbricated on all sides, nearly equal. *Fruit* accompanied by very long silky hairs.—*Nat. Ord.* CYPERACEÆ, *Juss.*—Named from ἔριον, *wool*, and φερω, *to bear.*

13. NÁRDUS. *Cal.* 0. *Cor.* of 2 valves.—*Nat. Ord.* GRAMINEÆ, *Juss.*—Named from ναρδος, formerly given to an odoriferous substance, but not applicable in this case.

(*Some* Junci; *see* Cl. VI.)

ORD. II. DIGYNIA. 2 *Styles.*

All in this Order, together with the preceding genus *Nardus*, and *Anthoxanthum* in the 2d Class, constitute the true GRASSES.[1]

* *Flowers panicled.* (*Panicle often very compact, so as to appear spiked.*)

† *Calyx single-flowered.*

14. ALOPECÚRUS. *Cal.* 2-valved; valves nearly equal, mostly connate at the base. *Valve* of the *cor.* with an awn rising from the base.—Named from αλωπεξ, a *fox*, and ουρα, a *tail.*

15. PHÁLARIS. *Cal.* of two, erect, carinated valves, larger than the two-valved, at length indurated *corolla*, which is accompanied at the base by one or two valves of other imperfect florets. *Fruit*

[1] Here again we have a structure in the flower, and a habit in the whole plant, so different from those of other flowering-plants, that in the former especially, peculiar names have been given to its different parts, which it may be desirable to explain. The floral coverings, as they are termed, are *glumaceous* or chaffy. The *outer* of these, which are empty, composed of one, two, or three pieces, are here called the *calyx*, and the pieces the *glumes* or *valves*, and they *seem* to hold the place of a calyx in the two-valved, single-flowered genera; but often they include many flowers, and with justice are considered *bracteas.* These Messrs. Brown and Lindley call *glumes.* The inner, generally of a thinner texture, is here, as by Linnæus and Smith, named *corolla*, its pieces, *glumes* or *valves.* This is the true perianth and so called by Brown, (*paleæ*, by Beauv. and Lindl.) Within this and at the base of the germen are generally 2 collateral, rarely 1, small *scales* (*nectary* of Linn. and Sm.). The *stem* is mostly hollow, and jointed, and called a *culm.* It bears at each joint a *leaf*, which is sheathing at the base and split up on one side, and at the top of the sheath, just where it expands into the blade, is frequently a small projecting membrane, called a *ligule.*

invested with the hardened corolla.—Named from φαλος, *shining*: —*canary-seed* being very glossy.

16. Ammóphila. *Panicle* spiked. *Cal.* of 2 nearly equal, keeled valves, longer than the corolla, surrounded at the base by a tuft of hairs.—Named from αμμος, *sand,* and φιλος, a *lover.*

17. Phléum. *Panicle* compact. *Cal.* of 2 valves, nearly equal, acuminate, or mucronato-aristate, including the *cor.* of 2 awnless valves. *Seed* free.—Named from φλεος, or φλεως, formerly given, as is supposed, to the *Reed-mace* (*Typha*), to which our grass bears some distant resemblance.

18. Lagúrus. *Panicle* spiked. *Cal. glumes* of 2, fringed valves, lengthened into feathery awns. Outer valves of the *cor.* bifid at the apex, with a dorsal awn.—Named from λαγως, *a hare,* and ουρα, *a tail.*

19. Mílium. *Panicle* spreading. *Cal.* 2-valved, flattish, herbaceous, rather acute, longer than the *cor. Fruit* invested with the permanent hardened *cor.*—Named either from *mille,* a thousand, on account of its fertility ; or, according to Théis, from the Celtic *mil,* a *stone,* from the hardness of its fruit.

20. Gastrídium. *Panicle* contracted, spiked. *Cal.* 2-valved, acute, ventricose at the base, membranaceous, much longer than the *cor. Cor.* of 2 valves, and investing the fruit, outer one mostly with a dorsal awn.—Named from γαστριδιον, a *ventricle,* or little *swelling,* as is seen at the base of the calyx.

21. Stípa. *Panicle* erect, compact. *Cal.* of 2 valves, longer than the *cor. Cor.* cartilaginous, involute, terminated with a very long twisted awn, jointed at the base, and finally separating at the joint.—Named from στυπη, *silky,* an appellation which the common species of the gardens well merits.

22. Polypógon. *Panicle* compact, somewhat spiked. *Cal.* of 2 valves, equal, larger than the *cor.*, awned at the extremity. *Cor.* of 2 unequal valves, the outer obtuse, awned at the very extremity. —Named from πολυ, *many,* and πωγων, a *beard:* from the bearded appearance of the panicle.

23. Calamagróstis. *Panicle* loose. *Cal.* of 2 valves, longer than the 2 valves of the *corolla,* which is surrounded by hairs at the base, and has the outer valve awned.—Named from καλαμος, one of the *Palms,* and αγρωστις, a genus of grasses ; a barbarous denomination, and only admissible on the ground of its being now generally adopted.

24. Agróstis. *Panicle* loose. *Cal.* of 2 unequal glumes, longer than the *cor. Corolla* of 2 unequal valves, the inner sometimes wanting, the outer with or without an awn. *Seed* free.—Name

given by the Greeks to Grasses, from ἀγρος, a *field*, because they are so abundant in open places.

†† *Calyx* 2—*or rarely* 3-*flowered.*

25. Catabrósa. *Panicle* spreading. *Cal.* of 2 valves, membranaceous, very obtuse, much shorter than the spikelets, 2-or 3-flowered, often with a 4th imperfect floret. *Cor.* 2-valved, coriaceous, membranous only at the extremity, ribbed, truncated, awnless, erose, nearly equal.—Named from καταβρωσις, *a gnawing;* from the erose extremity of the glumes.

26. Aíra. *Cal.* of 2 valves, unequal, containing two perfect flowers. *Cor.* two-valved, membranaceous and thin, the outer one awned (rarely awnless) near the base. *Fruit* free.—Named from αἴρω, to *destroy*. This name was anciently applied to the *Lolium temulentum*, (*bearded Darnel*,) on account of its supposed injurious effects: and now to the present genus of grasses, though having little in common with it.

27. Mélica. *Panicle* lax. *Cal.* of 2 valves, about 2-flowered, with the rudiment of a third floret. *Cor.* 2-valved, awnless. *Fruit* free, covered by the cartilaginous *cor.*—Name, *Melica* or *Melliga*, given in Italy to the *Sorghum vulgare* on account of the sweet flavour of its stem (*mel, honey*): applied by Linnæus to this somewhat allied genus.

28. Hólcus. *Panicle* lax. *Cal.* of 2 valves, nearly equal, 2-flowered. *Cor.* 2-valved, upper floret with stamens only and awned; lower, perfect and awnless. *Fruit* covered by the indurated *cor.*—Name ὁλκος, from ἑλκω, *to extract*, because it was supposed to have the property of drawing out thorns from the flesh.

29. Arrhenathérum. *Panicle* lax. *Cal.* of 2 valves, 2-flowered: lowermost floret with stamens only and a long twisted awn above the base; upper one perfect with a short strait bristle below the point.—Named from ἀρρην, *male*, and ἀθηρ, *an awn*.—This genus has altogether the habit of *Avena*, from which it differs in the number and structure of its florets.

30. Hieróchloe. *Panicle* mostly lax. *Cal.* of 2 valves, 3-flowered. *Cor.* of 2 valves; the *lateral florets* triandrous, *pistil* 0: *terminal* (*or central*) *one* perfect, diandrous. *Br.*—*Cor.* permanently membranous. *Fruit* free. *Sm.*—Named from ἱερος, *sacred*, and χλοα, or χλοη, *a grass:* so called by Gmelin, because, in some parts of the Prussian dominions, it is dedicated to the Virgin Mary, and strewed before the doors of the churches on festival-days, as the *Sweet-flag* (*Acorus Calamus*), is in England.

31. Sesléria. *Panicle* spiked. *Cal.* of 2 valves, nearly equal, somewhat awned. *Cor.* of 2 valves, the outer jagged and awned,

the inner bidentate. *Fruit* free.—Named from *Leonard Sesler*, an Italian Physician and Botanist.

32. PÁNICUM. *Panicle* spiked; *spikes* compound. *Cal.* 2-valved, unequal, 2-flowered; *ext. valve* minute, sometimes obsolete. *Florets* dissimilar; *ext.* with *anthers* only or *neuter*, 1—2-valved; *ext. valve* with the texture of the inner glume; *int.* perfect, 2-valved, cartilaginous, enveloping, and somewhat adhering to, the fruit. *Br.*—Named from *Panis? bread;* some species being used for bread.

33. SETÁRIA. *Panicle* in a dense, cylindrical *spike. Flowers* as in *Panicum*, only subtended by a *bristly involucre*, which includes 2—3 florets.—Named from *seta*, a *bristle.*—*Pennisetum*, *Br.*—To this genus the true *Millets* belong.

††† *Calyx* 3-or, *mostly many-flowered.*

34. PÓA. *Panicle* lax. *Cal.* 2-valved, shorter than the florets. *Cor.* 2-valved, valves subovate, bluntish, awnless. *Fruit* free.—Name, πoα, *grass* or *pasturage*, from παω, *to feed;* the whole genus affording an abundant pasturage for cattle.

35. TRIÓDIA. *Panicle* racemed. *Cal.* 2-valved, many-flowered, nearly equal. *Cor.* 2-valved; *ext.* one with three nearly equal teeth, the middle one strait.—Named from τρεῖς, *three*, and οδους, a *tooth.*

36. BRÍZA. *Panicle* lax. *Cal.* 2-valved. *Cor.* 2-valved, awnless; *ext.* one ventricose; *int.* very small and flat. *Fruit* adnate with the *cor.*—Named from βριθω, to *balance*, the spikelets being delicately suspended.

37. DÁCTYLIS. *Panicle* with the secondary branches short and very dense, subsecund. *Cal.* of 2 unequal valves, the larger one keeled. *Cor.* of 2 lanceolate, scarcely awned valves, enclosing the *fruit.*—Except in habit this genus is scarcely distinguishable from *Festuca.*—Named from δακτυλος, a *finger.*

38. CYNOSÚRUS. *Panicle* spiked. *Cal.* 2-valved, equal, awned, having a pectinated *involucre. Cor.* 2-valved, valves linear-lanceolate; *int.* awned below the extremity or awnless.—Named from κυων, a *dog*, and ουρα, a *tail;* from the shape of its spike.

39. FESTÚCA. *Panicle* lax, or coarctate, or spiked. *Cal.* of 2 unequal valves. *Cor.* of 2 lanceolate valves; *ext.* acuminate or awned at the summit.—Named from the Celtic word *fest*, according to Théis, which signifies *food, pasturage.*

40. BRÓMUS. *Panicle* lax. *Cal.* of 2 valves, many-flowered. *Cor.* of 2 lanceolate *valves; ext.* one awned below the bifid extremity. (Inner valve generally fringed at the folds, *Sm.*)—Named

from ἔρωμος, given by the Greeks to a kind of *oat,* and that again from ἔρωμα, *food.*

41. Avéna. *Panicle* lax. *Cal.* 2-valved, 2-flowered. *Cor.* of 2 lanceolate *valves,* firmly enclosing the seed: *ext.* one bearing a twisted dorsal *awn;* upper florets often imperfect.—Name of doubtful origin: the ancients applied it to the *Brome-grass.*—*Oat,* Théis tells us, comes from the Celtic word *atan,* the *Oat;* and that again from *etan,* to *eat.*

42. Arúndo. *Panicle* loose. *Cal.* 2-valved, unequal, many-flowered. *Cor.* of 2 very unequal *valves;* all, except the lower and imperfect one, surrounded by a tuft of hairs. *Fruit* free, covered by the *cor.*—Name; *Arundo,* the Latin for a *Reed;* "ab *arendo,* quod cito arescat." De Théis says it comes from *arn,* the Celtic word for *water.* There is abundant room for the exercise of imagination in the derivation of names.

** *Inflorescence spiked.* (*Solitary flowers, or spikelets, sessile upon a common stalk or rachis.*

† *Flowers or spikelets distichous or inserted on all sides.*

43. Élymus. *Spikelets* 2 or 3 from the same point. *Cal.* 2-valved, lateral (both the valves on one side the spikelet), 2—3 flowered, all perfect. *Cor.* 2-valved.—Name, ἕλυμος, given by the Greeks to the *Panic-grasses,* perhaps because they grew abundantly about *Elyma* in Greece. (*Théis.*)

44. Hórdeum. *Cal.* lateral, 2-valved, single-flowered, ternate, central floret perfect, lateral ones mostly imperfect (having often at the back of the inner valve a bristle or abortive floret). Outer valve of *cor.* awned. *Fruit* incorporated with the *cor.*—Name of dubious origin.

45. Tríticum. *Cal.* 2-valved, many-flowered; its valves opposite, transverse, the sides (not the back of one of them) directed to the rachis, nearly equal. *Cor.* 2-valved, valves lanceolate, *ext.* one acuminate or awned at the extremity: *int.* bifid at the point.—There are two natural groupes in this genus: 1st, the large annual species, exotic to our country, which are cultivated so extensively as *Bread-corn;* and, 2dly, the smaller perennial species, many of which are natives with us. These, some authors look upon as 2 distinct genera; *Triticum* and *Agropyrum, Beauv., Lindl.* We have only to consider the latter genus, or groupe.—Name, *Triticum,* "quod *tritum* est e spicis:" because it is thrashed or beaten from the spikes.

46. Brachypódium. *Spikelets* alternate, remote, cylindrical-compressed. *Cal.* 2-valved, many-flowered; *valves* opposite, transverse, unequal. *Cor.* 2-valved, the *valves* lanceolate; *ext.* one generally awned at the extremity; *int.* retuse.—Named from βραχυς,

short, and πους, *a foot;* from the sessile or nearly sessile spikelets.—These sessile spikelets and the *terminal* awn distinguish this genus from *Bromus*, where the British plants of this genus had been placed. There are many continental species, which preserve the same habit: and the individuals naturally come near to the British species of *Tritieum*. Beauvois, perhaps with justice, refers *Trit. loliaceum* to it.

47. Lólium. *Cal.* of one *valve*, solitary, many-flowered. *Cor.* of two *valves; ext.* awnless or with an awn below the extremity.—Name, "quasi *dolium*, δολιον, quod dolosum sit vel adulterinum. Fit enim e corruptis Tritici ac Hordei seminibus." The ancients, as well as the moderns, attributed poisonous qualities to the *L. temulentum;* and even now it is believed in some countries, that the *Wheat* changes into *Darnel*.

48. Rottbóllia. *Cal.* of 2 valves; *valves* unilateral, sometimes combined into one, 1—2-flowered. *Cor.* 2-valved, awnless, imbedded, as it were, in a thick *raehis*.—Named from *Rottboll*, a Professor of Botany at Copenhagen.

49. Knáppia. *Cal.* single-flowered, of 2 truncated, nearly equal *valves*. *Cor.* of 2 unequal, hairy *valves*, obtuse.—Named in honour of *Mr. Knapp*, an English Botanist, author of a work on British grasses.

†† *Flowers in unilateral spikes.*

50. Spartína. *Spike* compound. *Spikelets* unilateral. *Cal.* of 2 opposite, lanceolate, compressed, unequal, acuminate *valves*, one-flowered. *Cor.* of 2, compressed, rather unequal, lanceolate *valves*. *Styles* united half-way up.—Name derived from its similarity to the *Lygeum Spartum*, or *Bastard Mat-weed*. *Esparto* is a name given to *Stipa tenaeissima* by the Spaniards, who make ropes, &c. of it.

51. Cýnodon. *Spikes* digitate or racemose. *Spikelets* unilateral. *Cal.* 1-flowered, of 2 nearly equal, patent, boat-shaped *valves*. *Cor.* of two awnless *valves; ext.* boat-shaped, compressed. *Fruit* coated with the hardened *cor.*—Named from κυων, *a dog*, and οδους, *a tooth*.

52. Digitária. *Spikes* compound. *Spikelets* unilateral. *Cal.* 1-flowered, of 2—3 very unequal, close-pressed, awnless *valves: ext.* very small. *Cor.* of 2, awnless *valves; ext.* convex, embracing the flattened *int.* one. *Fruit* coated with the hardened *cor.*—Named from *digitus, a finger*.

ORD. III. TRIGYNIA. 3 *Styles.*

53. Móntia. *Cal.* of 2 leaves. *Cor.* of 5 irregular *petals* united at the base into one. *Caps.* 3-valved, 3-seeded.—*Nat. Ord.*

PORTULACEÆ. *Juss.*—Named in honour of *Joseph de Monti*, a Professor of Botany and Nat. History at Bologna.

54. HOLÓSTEUM. *Cal.* of 5 leaves. *Pet.* 5-toothed. *Caps.* 1-celled, opening at the extremity with 6 teeth. *Seeds* furrowed on one side, dotted. *Embryo* folded.—*Nat. Ord.* CARYOPHYLLEÆ, *Juss.*—Named from ολος, *all*, and οστεον, *bone*, by antiphrasis, the texture being the very reverse, soft and delicate.

55. POLYCÁRPON. *Cal.* of 5 leaves. *Pet.* 5, emarginate. *Stam.* 3—5. *Caps.* 1-celled, 3-valved, many-seeded.—*Nat. Ord.* PARONYCHIEÆ, *St. Hil.*—Named from πολυ, *many*, and καρπος, *fruit;* applied by the ancients to the *Polygonum aviculare*, to which the present genus is somewhat similar.

TRIANDRIA MONOGYNIA.

1. VALERIÁNA. *Linn.* Valerian.

1. V. *rúbra*, Linn. (*red Valerian*); corolla with a long spur, stamen 1, leaves ovato-lanceolate. *E. Bot. t.* 1532. *E. Fl. v. i. p.* 42.

Chalk-pits and old walls: but probably originally the outcast of gardens. Chalk-pits in Kent apparently wild, and certainly very abundant. Its native country is the south of Europe. *Fl.* June—Sept. ♃. —One foot or more high, glabrous, somewhat glaucous, entire or slightly toothed. *Leaves*, as in all the species of this and the following genus, opposite. *Flowers* fine deep rose-colour, arranged in numerous unilateral corymbose *spikes*.—This, constituting *Centranthus* of DeC. and assuredly a good genus, I have retained here on account of its affinity with the *Valerians*. For if separated from them, it must be referred to another Class, MONANDRIA.

2. V. *dioica*, Linn. (*small marsh Valerian*); flowers diœcious, corolla gibbous at the base, root-leaves ovato-spathulate, those of the stem lyrato-pinnatifid. *E. Bot. t.* 628. *E. Fl. v. i. p.* 43.

Marshy meadows, frequent. *Fl.* June. ♃.—*Stem* 6—8 inches high. *Leaves* more or less serrated. *Flowers* of a pale rose-colour.

3. V. *officinális*, Linn. (*great wild Valerian*); corolla gibbous at the base, leaves all pinnated, leaflets lanceolate nearly uniform serrated. *E. Bot. t.* 698. *E. Fl. v. i. p.* 43.

Ditches, sides of rivers and moist woods, abundant. *Fl.* June, July ♃.—*Roots* tuberous, warm, aromatic and employed in medicine, as those of the φου of Dioscorides, *V. Dioscoridis*, *Sm.* which is not the *V. Phu* of Linn. Cats are very fond of these roots, and the scent attracts rats. The leaves are much used by the poor as an application to fresh wounds; hence the plant has received the name of *All-heal*. Whole plant 2—4 feet high; *stems* striated. Lower *leaves* on long footstalks. *Flowers* pale flesh-coloured.

4. V. *pyrenáica*, Linn. (*heart-leaved Valerian*); corolla gibbous

at the base, leaves heart-shaped dentato-serrate petiolate, upper ones with one or two pair of small lanceolate leaflets. *E. Bot. t.* 1591. *E. Fl. v. i. p.* 44.

Woods in Scotland, but surely not an aboriginal native. It is peculiar, I believe, to the Pyrenées; but being frequently cultivated in gardens and its seeds very volatile, like those of the Syngenesious plants, it is not wonderful that it should naturalize itself in other countries. *Fl.* June, July. ♃.—Habit of *V. officinalis*, but very different in its foliage.

2. Fédia. *Vahl.* Corn-sallad.

1. F. *olitória*, Vahl, (*common Corn-Sallad or Lamb's Lettuce*); capsule subglobose inflated, with 3 obscure inflexed teeth glabrous, flowers capitate. *E. Bot. t.* 811, (*Valeriana Locusta L.*) *E. Fl. v. i. p.* 45.

Banks and corn fields, especially in a light soil. *Fl.* April—June. ⊙.—3 inches to a foot high, dichotomous, more or less rough. *Root-leaves* spathulate, those of the *stem* oblong, obtuse, entire or with the upper ones a little toothed. *Flowers* pale blue, in terminal compact heads, at the base of which are linear-oblong, often divided *bracteas*, forming a kind of *involucre*.—Frequently cultivated as a sallad. The two empty cells of the fruit are singularly inflated.

2. F. *dentáta*, Vahl, (*smooth narrow-fruited Corn-Sallad*); capsule ovate acuminate glabrous ribbed with 1 large and 2 smaller upright teeth, flowers corymbose, peduncles with a sessile axillary flower. *E. Bot. t.* 1370, (*Valeriana dentata, Willd.*) *E. Fl. v. i. p.* 45.

Corn-fields and hedge-banks, but not common. Cornwall, Essex and Cambridgeshire, and about Edinburgh. North Wales; *Mr. Wilson.*—*Fl.* June, July. ♃.—Perhaps often confounded with the last, from which it is perfectly distinct. *Leaves* narrower, the upper ones more toothed and even pectinated. *Flowers* flesh-coloured. *Fruit* obpyriform, convex on the back where is the larger and perfect cell, nearly plane in front, where are the two abortive cells: and these are shrunk so as to form two projecting lines or ribs; these are terminated by two small subulate teeth; between them is often another little tooth, while the perfect cell is lengthened out into a large broad and sharp tooth, which has generally at its base two smaller slightly inflexed teeth, one on each side. The whole fruit is perfectly glabrous.

3. F. *mixta*, Vahl, (*sharp-rough-fruited Corn-Sallad*); capsule ovato-acuminate clothed with spreading incurved rigid hairs obscurely ribbed, with one large and two smaller upright teeth, flowers corymbose, peduncles with a sessile axillary flower. *Vahl, Enum. v. ii. p.* 21. *Dufrêsne Hist. Val. p.* 58. *t.* 3. *f.* 6, (*Valerianella mixta.*)—*Valerianella microcarpa, Loisel.*

Hedge-bank, near Halesworth, Suffolk.—*Fl.* June. ⊙.—This I found many years ago in the station just mentioned, when I looked upon it as a hairy-fruited *var.* of *F. dentata*, and I have seen no other British specimen: but I have received the same plant from various continental

Botanists, and find it to be well described and figured (the fruit at least) by *Dufrêsne*. The difference indeed lies wholly in the fruit, but this is so remarkable, and so constant in all the specimens I have seen, that I have no hesitation in considering the species truly distinct.

4. F. *eriocárpa*, Roem. et Sch. (*blunt rough-fruited Corn-Sallad*); capsule crowned with the prominent cup-shaped oblique membranous unequally toothed calyx, and clothed with patent incurved rigid hairs, flowers corymbose, peduncles with a sessile axillary flower. *Desv. Journ. Bot.* 1809. *p.* 314. *t.* 11. *f.* 2. and *Dufrêsne Hist. Val. p.* 39. *t.* 3. *n.* 4, (*Valerianella erioc.*)

Discovered at Ormeshead, Caernarvonshire, by *Mr. Wilson*, in 1828.—*Fl.* June. ⊙.—Should there be any doubt entertained as to the validity of the preceding species, there can, I think, be none respecting this. The *calyx* in the fruit is expanded into a membranous or cartilaginous oblique blunt cup, with 6 distinct teeth, the upper one the largest, the rest gradually smaller: it forms in fact a broad mouth to the top of the fruit.—First noticed by M. Desvaux about Poictiers, in France, and his figure is admirably characteristic of our Welsh specimens, especially the fruit; which, nevertheless, Professor Mertens criticises in his excellent *Flora Germanica*.

3. Crocus. *Linn.* Crocus.

1. C. *satívus*, Linn. (*Saffron Crocus*); stigma protruded drooping, in three deep linear divisions. *E. Bot. t.* 343, (*C. autumnalis.*) *E. Fl. v. i. p.* 46.

Naturalized in meadows; having been cultivated abundantly, as it still is, about Saffron Walden in Essex, for the sake of its fragrant *stigmas* which constitute *saffron*. *Fl.* Sept. 4.

2. C. *vérnus*, Willd. (*purple Spring Crocus*); stigma erect within the flower cut into 3 jagged wedge-shaped lobes. *E. Bot. t.* 344. *E. Fl. v. i. p.* 46.—*C. sativus* β. *Linn.*

Meadows and fields, naturalized. About Nottingham, plentiful. *Fl.* March. 4.

3. C. *mínimus*, Réd. (*least purple Crocus*); stigmas erect longer than the stamens, included in the solitary flower, leaves linear-filiform, bulb with a membranous coat. *Pl. Lil. v. ii. t.* 81. *Hook. in Bot. Mag. t.* 2991.—*C. præcox, Haw. in E. Bot. Suppl. t.* 2645.—*C. reticulatus, E. Fl. and v. iv. p.* 262, (*not Bieb.*)

In Sir H. Bunbury's park at Barton, Suffolk, (assuredly not wild.) *Mr. D. Turner*. *Fl.* March. 4.

4. C. *aúreus*, Sm. (*golden Crocus*); 2-flowered, stamens longer than the stigmas, segments of the cor. oblong incurvo-patent, bulb coated with compact fibres. *Fl. Græc. v. i. p.* 25. *t.* 35. *Hook. in Bot. Mag. t.* 2986. *Haw. in E. Bot. Suppl. t.* 2646.

With the preceding, and equally the outcast of gardens. *Fl.* March. 4.—This again Mr. Borrer considers not specifically distinct from *C. mæsiacus*, Gawl. (*C. vernus, Curtis* in *Bot. Mag.*)

5. C. *nudiflórus*, Sm. (*naked-flowering Crocus*); stigma erect within the flower in 3 deeply laciniated tufted segments, equal in height with the stamens, flowers appearing before the leaves. *E. Bot. t.* 491. *E. Fl. v. i. p.* 47.

Between Nottingham Castle and the Trent. *Fl.* Oct. 4.—*Flowers* pale purple. I possess specimens from the station now mentioned, sent by Dr. Jowitt, which precisely accord with the plant of *E. Bot.* But another species is found by Mr. Wilson in meadows near Warrington, equally an autumnal-flowering plant, and the flowers appearing before the leaves;—having the lobes of the capillaceo-multifid *stigma* much exceeding the *stamens* in length. I have received the same species too from the neighbourhood of Halifax. This is the *C. speciosus* of Marschal Bieberstein, as proved by comparison with an authentic specimen in my Herbarium. That author too notices, in his *Flora Taurico-Caucasica*, the characters which distinguish it from Smith's *C. nudiflorus*.—I will not augment the list of British species of *Crocus*, by adding another naturalized plant, but content myself with noticing it in this place.

In all this Genus, the Germen is concealed under-ground, elevated by a short peduncle from the root; which peduncle elongates, after the decay of the flower, and the capsules appear above ground.

4. Trichonéma. *Ker.* Trichonema.

1. T. *Bulbocódium*, Ker, (*channel-leaved Trichonema*); leaves linear-filiform longer than the scapes, spatha longer than the tube, segments of the limb acute striated. *E. Bot. t.* 2549, (*Ixia Bulbocodium*). *E. Fl. v. i. p.* 48.

Grassy hillocks in Guernsey. *Fl.* March, April. 4. A small bulbous plant, with purplish *flowers*, often inclining to yellow.

5. Iris. *Linn.* Iris or Flower de Luce.

1. I. *Pseud-ácorus*, Linn. (*yellow Water-Iris or Corn-flag*); leaves sword-shaped, perianth beardless, its inner segments smaller than the stigma. *E. Bot. t.* 578. *E. Fl. v. i. p.* 48.—*β. citrina*; flowers smaller, segments of the perianth narrower, the inner ones more acute, stem taller. *Iris Pseud-acorus β. Bot. Mag. t.* 2239.

Watery places, wet meadows and in woods, frequent.—*β.* found in Ayrshire by *Mr. James Smith* of Ayr. *Fl.* June, July. 4.—*Flowers* large, deep yellow in *α*, much paler in *β*. *Root* large, horizontal, very acrid. A piece of it held between the teeth is said to cure the tooth-ache, and is otherwise used medicinally; also for giving a black dye, and making ink. The *seeds*, when roasted, are recommended as a substitute for coffee.

2. I. *fœtidíssima*, Linn. (*stinking Iris*); leaves sword-shaped, perianth beardless, its inner segments spreading aboutas large as the stigmas, stem one-angled. *E. Bot. t.* 596. *E. Fl. v. i. p.* 49.

Woods, thickets and pastures; frequent in the southern and western parts of England, rare in the middle and northern counties: not known, in a wild state, in Scotland. *Fl.* May. 4.—*Flowers* much smaller than the last, dull livid purple. The *leaves*, when bruised, yield a very dis-

agreeable smell, which some have, however, compared to roast-beef, whence its common English name, *Roast-beef plant.* In Devonshire it is so frequent that you can hardly avoid walking among it, when herborizing, and being annoyed by the smell.

6. Cypérus. *Linn.* Cyperus or Galingale.

1. C. *lóngus*, Linn. (*sweet Cyperus or English Galingale*); spikelets linear-lanceolate erecto-patent in doubly compound umbels, general involucre very long leafy, partial small, stem triangular. *E. Bot. t.* 1309. *E. Fl. v. i. p.* 53.

Very rare. Marsh near St. David's and at Walton in Gordon, Somersetshire. Near Sea-brook, Kent; *Rev. G. E. Smith.* Boyton, Wilts; *Mr. Peate. Fl.* July. 4.—*Root* very aromatic and astringent.

2. C. *fúscus*, Linn. (*brown Cyperus*); spikelets linear-lanceolate fasciculato-corymbose, glumes patent, involucre of 3 unequal leaves, stem triangular, stigmas 3. *Hook. in Fl. Lond. New Series, t.* 85. *E. Fl. v. i. p.* 54. *Hook. in E. Bot. Suppl. t.* 2626.

Marshes, very rare. Meadows near Little Chelsea, where it was discovered by *Mr. Haworth. Fl.* Sept. ⊙.—A small plant, only a few inches high.—Of the Genus *Cyperus*, 237 species are described in Sprengel's Syst. Vegetabilium. Most of them are tropical: they gradually diminish in number as we recede from the tropics: so that, though 2 species are natives of England, none is found in Scotland.

7. Schœnus. *Linn.* Bog-rush.

1. S. *nígricans*, Linn. (*black Bog-rush*); stem rounded, spikelets collected into a rounded head shorter than the outer bracteas. *E. Bot. t.* 1121. *E. Fl. v. i. p.* 50.

Wet moors and boggy places. Rare in Scotland, except on the West coast. *Fl.* June, July. 4.—Remarkable for its rigid habit, nearly setaceous *leaves*, and the dark brown almost black heads of *flowers.* The *style* is jointed upon the germen and darker than it. "*Bristles* small, reddish-brown, spiny, the spines pointing upwards; attached to the receptacle, as Smith observes, but certainly placed on the outside of the filaments,—which is the case also in various species of *Scirpus*, and, as I am inclined to believe, in all cases where bristles are to be found at all." (*Mr. Wilson.*)

8. Rhynchóspora. *Vahl.* Beak-rush.

1. R. *álba*, Vahl, (*white Beak-rush*); spikelets in a compact corymb as long as the outer bracteas, leaves narrow-linear. *E. Bot. t.* 985, (*Schœnus alb. Lin.*) *E. Fl. v. i. p.* 52.

Wet pastures and turfy bogs. *Fl.* June—Aug. 4.—*Spikelets* of *flowers* white or whitish, collected so as to form a level surface at the top. In the flowers I find 6 or more bristles, much longer than the germen, and decidedly placed outside the stamens. *Fruit* in this and *R. fusca*, obovate, compressed, distinctly margined, tapering at the base into a short stalk. *Style* persistent, thin, pellucid, often greenish, dilated at the base, which is not articulated, nor so broad as the seed, but immediately distinguishable from the shining nut by its colour and texture.

If *R. aurea*, the first species described by Vahl, is to be considered the type of the genus, then must our two British species be separated from it, if the fruit and the *style* are to afford characters: for in *R. aurea* the nut is obovate, indeed, but not at all compressed nor margined: the style is very large, thick, corky, swollen at the base, and remarkably constricted where it is set upon the germen; it is moreover grooved on two sides. I find but one flower in the spikelets of *R. aurea*, two in those of *R. alba*.

2. R. *fúsca*, Sm. (*brown Beak-rush*); spikelets in an oval head much shorter than the outer bracteas, leaves almost filiform. *E. Bot. t.* 1575, *Schœnus fusc. L.*) *E. Fl. v. i. p.* 52.

Bogs, principally in the south-west of England and Ireland.—*Fl.* July, Aug. ♃.—Habit of the last, though very different in specific character. Heads of *flowers* oval, rich brown; *spikelets* larger and the *stigmas* more protruded. Smith and Sturm have figured and described only 3 bristles to each flower. I find 6 in the British, as well as in American specimens, which are in no respect different from ours.

9. Scírpus. *Linn.* Club-rush.

1. S. *lacústris*, Linn. (*Lake Club-rush or Bull-rush*); spikelets in compound lateral umbels mostly shorter than the rounded almost leafless stem. *E. Bot. t.* 666. *E. Fl. v. i. p.* 56.—*β. glaucus*; smaller and glaucous. *Hook. Scot. v. i. p.* 18. *S. glaucus*, *E. Bot. t.* 2312. *E. Fl. v. i. p.* 57.

Plentiful on the margins of lakes and ponds.—*β.* In similar situations. *Fl.* July, August. ♃.—*Root* much creeping. *Inflorescence* truly lateral, near the extremity of the stalks, which are very variable in size, 2—6 or 8 feet high, and as thick as a finger at the base. *Spikelets* often almost sessile. *Glumes* brown, fringed. *Stigmas* 2—3. *Fruit* obovato-triquetrous, accompanied by 5 or 6 *bristles*. The *stems* are much used for mats, chair-bottoms, &c. and they constitute a very considerable article of trade. Coopers employ them for filling up spaces between the seams of casks, and their spongy nature admirably adapts them to this purpose.

I am happy to be confirmed in my opinion, expressed in *Flora Scotica*, that the *S. glaucus* is but a variety of this, by so acute an observer as Mr Wilson.

2. S. *Holoschœnus*, Linn. (*round-cluster-headed Club-rush*); stem rounded, spikelets lateral collected into compact globular sessile or stalked heads, leaves subulate channelled, bristles to the flower none. *E. Bot. t.* 1612. *E. Fl. v. i. p.* 57.

Sandy sea-shores, only found in the extreme southern and western parts of England. *Fl.* Sept. ♃.

3. S. *setáceus*, Linn. (*bristle-stalked Club-rush*); stem compressed with 1 or 2 leaves at the base, spikelets about 2 terminal, general bractea erect leafy much shorter than the stem, nut ribbed, bristles none. *E. Bot. t.* 1693. *E. Fl. v. i. p.* 58.—*Isolepis setacea*, *Br.*

Moist gravelly places, frequent. *Fl.* July, Aug. ♃.—*Stems* tufted, 2—5 inches high, very slender. *Stam.* 2. *Stigmas* 3.

4. S. *tríqueter*, Linn. (*triangular Club-rush*); stem triquetrous straight at the point, its sheaths leafy, spikelets ovate or oblongo-ovate clustered sessile and stalked naked, stigmas 2, fruit smooth. *E. Bot. t.* 1694. *E. Fl. v. i. p.* 60.

Muddy banks of rivers, near London; and a *var.* with spikelets all sessile was found in Jersey by *Sherard. Fl.* Aug. 4.—Well distinguished by its acutely triquetrous *stem.*

5. S. *carinátus*, Sm. (*blunt-edged Club-rush*); stem rounded at the base bluntly triangular upwards, its sheaths leafless, cyme terminal decompound, involucre of 2 unequal leaves, spikelets oblong, stigmas 2. *E. Bot. t.* 1983. *E. Fl. v. i. p.* 60.

Banks of rivers, very rare. About London and on the banks of the Arun, Sussex. *Fl.* July, Aug. 4.

6. S. *marítimus*, Linn. (*salt-marsh Club-rush*); stem leafy triangular, spikelets terminal clustered stalked and sessile, involucre of many foliaceous leaflets, glumes with a mucro between the acute segments of the notch. *E. Bot. t.* 542. *E. Fl. v. i. p.* 61.

Salt-marshes, frequent. *Fl.* July, Aug. 4.—*Root* creeping, sometimes swelling into knots or tubers. *Leaves* frequently longer than the stem, flat, acuminate. *Stigmas* 3. *Bristles* 3—4, accompanying the smooth, obovato-triangular *fruit.*

7. S. *sylváticus*, Linn. (*wood Club-rush*); stem triangular leafy, cyme terminal many times compound, involucre of many foliaceous leaflets, glume entire acute. *E. Bot. t.* 919. *E. Fl. v. i. p.* 62.

Moist woods and banks of rivers. Abundant in South Kent, (*Rev. G. E. Smith;*) about Killin, at the head of Loch Tay, Perthshire, and in very many places in the south of Scotland. It seems to be less frequent in England. *Fl.* July. 4.—A handsome species, bearing innumerable small, greenish, ovate *spikelets. Stem* 2—3 feet high. *Leaves* broadly linear. *Fruit* with rather long bristles.

10. Blýsmus. *Panz.* Blysmus.

1. B. *compréssus*, Panz. (*broad-leaved Blysmus*); lowermost bractea subulate somewhat leafy, bristles 6 as long as the style, leaves linear flat. *Lindl. Syn. p.* 280.—*Schœnus compressus, Linn.—E. Bot. t.* 791.—*Scirpus caricis, Retz.—Scirpus caricinus, E. Fl. v. i. p.* 58.—*Schrad.—S. compressus, Pers.—Carex uliginosa, Linn.*

Boggy pastures, by river-sides and near the sea: not uncommon. *Fl.* July. 4.—*Stem* 6—8 inches high, leafy. *Glumes* brown, striated. *Bristles* with reflexed spines.—The habit of this and the following plant is quite peculiar, and justifies their being formed into a distinct genus. The fructification is exactly similar in the two. Mr. Lindley characterizes the style as deciduous; but it is by no means so in my specimens. M. de Beauvois' Genus *Nomochloa* is the same as this.

2. B. *rúfus*, Link, (*narrow-leaved Blysmus*); bracteas all

equal membranaceous, bristles none, leaves very narrow grooved. *Schœnus rufus, E. Bot. t.* 1010.—*Scirpus rufus, Schrad.—E. Fl. v. i. p.* 59.

Marshy plains; especially near the sea, particularly in Scotland; as far as Shetland. On the coast of Wales, west of England and west of Ireland. *Fl.* July. ♃.—Slenderer and more rigid than the last, more upright: *spikes* darker, the *glumes* more membranaceous, thin, not striated and more obtuse: in both very broad and convolute.

11. Eleócharis. *Br.* Spikerush.

1. E. *palústris*, Br. (*creeping Spike-rush*); stem rounded, root much creeping, stigmas 2, fruit lenticular plano-convex shorter than the 4 bristles, outer glume smaller than the rest. *E. Bot. t.* 131, (*Scirpus pal. L.*) *E. Fl. v. i. p.* 63.

Sides of ditches and wet marshy places, frequent. *Fl.* June, July. ♃. —" *Root* creeping (to a great length), black and shining, as well as the external sheaths of the stem. *Bristles*, in the flower, only 4, longer than the ripe fruit, flattened, dilated at the base, and broader than the filaments. *Receptacle* elongated below the insertion of the filaments, so that the flower appears to be not quite sessile, as it is in *E. multicaulis*. *Germen* shorter and broader than in the next species, the *style* is also shorter. Again, the section of the stem is different from that of *E. multic.*, without any central pith, but with longer membranous tubes surrounded by smaller ones." *Wilson MSS.*

2. E. *multicáulis*, Sm. (*many-stalked Spike-rush*); stem rounded, root scarcely creeping, stigmas 3, fruit obovate triquetrous longer than the 6 bristles, outer glumes smaller than the rest. *E. Fl. v. i. p.* 64. *E. Bot. t.* 1187, (*Scirpus multic.*)—*Scirpus palustris* β. *Linn. Lapp. ed.* 2. *Hook. Scot. v. i. p.* 18.

Not uncommon, probably, in marshy places throughout the kingdom; but frequently passed by for the *E. palustris.—Fl.* July. ♃.—" *Root* not creeping.[1] *Sheaths* of the stem brown, not shining; the *stems* are always inclined, frequently bent and almost prostrate. *Bristles* 6, shorter and narrower than in the former species, the base not dilated, shorter than the ripe fruit. The *receptacle* is elongated above the insertion of the filaments; hence the *germen* seems to be attenuated below. *Stem* with a stout central pith, with membranous tubes of looser texture interposed between it and the external part. Some of the *bristles* in the flower seem to be attached to the receptacle higher up than the base of the filaments, but still 3 of these bristles are at the exterior base of those filaments." *Wilson MSS.*

[1] Not, indeed, as in *E. palustris*; but it certainly sends out root-stocks to the length of 2 or 3 inches, from which fibres proceed below and new shoots above. The *roots* cannot be called simply tufted. I dwell much on the character of this and the preceding species, because I have myself fallen into an error in the *Fl. Scot.* in considering them varieties of each other. Sir J. E. Smith has well distinguished them in the *Engl. Flora*; and my friend Mr. Wilson, with his usual sagacity, has confirmed Smith's character and detected others, which I give in his own words.

3. E. *pauciflóra*, "Link," (*chocolate-headed Spike-rush*); stem rounded its sheaths leafless, spike ovate naked, the 2 outer glumes the largest obtuse but shorter than the spike, stigmas 3, style scarcely deciduous not jointed.—*Scirpus pauciflorus, E. Bot. t.* 1029. *E. Fl. v. i. p.* 55.—*S. Bœothryon, Ehrh.*

Moors in Scotland, not unfrequent. In England rare; near Yarmouth, Norfolk; Anglesea, and Bangor in Wales; *Mr. Wilson. Fl.* July, Aug. 4.—Habit of small plants of *E. palustris. Fruit* pale, obovate, triquetrous, terminated by the withered rigid *style*, not swollen at the base nor jointed, gradually tapering from the obtuse point of the fruit. *Roots* fibrous, sending out jointed runners.

4. E. *cæspitósa*, Link, (*scaly-stalked Spike-rush*); stem rounded, or slightly compressed (*Wilson*), sheaths with subulate leaves, their 2 outermost glumes (fertile) longer than the very small spikes and terminating in long rigid points, stigmas 3, style deciduous, fruit mucronated with the narrow persistent base of the style. —*Scirpus cæspitosus, E. Bot. t.* 1029.—*E. Fl. v. i. p.* 55.

Moors and moist heathy places, every where. *Fl.* June, July. 4.—A small species, 2—6 inches high. *Bristles* 6. *Fruit* obovate, triquetrous, pale yellow, tipped with a mucro, as in most of the true *Scirpi.*—This plant is called "*Deer's Hair*" in the Highlands, and yields an abundant food to sheep on the mountains in spring. Upon Ben Lawers I have found a *variety*, having the larger of the 2 outer glumes an inch long, 4 times the length of the spike.

5. E. *aciculáris*, Roem. et Sch. (*least Spike-rush*); stem setaceous compressed grooved, sheaths leafless, spike ovate acute, glumes equal acute, stigmas 3, bristles none. *E. Fl. v. i. p.* 64.—*Scirpus acic. E. Bot. t.* 749.—*Isolepis, Schlecht.*

Sides of lakes, and wet, sandy and marshy places, frequent. *Fl.* July, Aug. 4.—The most slender and delicate of the *spike-rushes. Root* fibrous with filiform runners. *Fruit* obovate, oblong, pale yellow, beautifully impressed with dotted lines, tipped with the almost globose dark base of the *style.*

6. E. *flúitans*, (*floating Spike-rush*); stem (or rather floating root) compressed branched, spikes ovate, glumes nearly equal obtuse, stigmas 2, bristles none, fruit obovate plano-convex, tipped with the narrow base of the style. *Scirpus fluit. L.—E. Bot. t.* 216. *E. Fl. v. i. p.* 56.—*Isolepis, Br.—Eleogiton. Link, Lindl.*

Ditches and still lakes, and pools of water which are sometimes dried up. *Fl.* June, July. 4.

12. Eriophorum. *Linn.* Cotton-grass.

* *Spike solitary.*

1. E. *alpínum*, Linn. (*alpine Cotton-grass*); stem triangular, leaves much shorter than the sheaths, spikes oblongo-ovate. *E. Bot. t.* 311. *E. Fl. v. i. p.* 67.

Northern bogs, now probably extinct. It is to be feared that there is some mistake in regard to its having been found in the Breadalbane Mountains. It was discovered in the Moss of Restenat near Forfar, by *Mr. Brown* and *Mr. G. Don:* but that bog is drained and the plant has disappeared. *Fl.* June. 4.

2. E. *vaginátum*, Linn. (*Hare's-tail Cotton-grass*); stem above triangular, sheaths below with long setaceous leaves, above leafless obtuse inflated, spike ovate. *E. Bot. t.* 873. *E. Fl. v. i. p.* 66.

Turf-bogs and barren moors, not unfrequent, especially in the mountainous parts of the north. *Fl.* March—May. 4.

3. E. *capitátum*, Host, (*round-headed Cotton-Grass*); stem rounded, sheaths below bearing linear subulate leaves, above leafless inflated obtuse, spike almost globose. *E. Bot. t.* 2387. *E. Fl. v. i. p.* 66.

Ben Lawers, by the side of a rivulet near perpetual snow, *G. Don. Fl.* July, Aug. 4.

** *Spikes many.*

4. E. *polystáchion*, Linn. (*broad-leaved Cotton-Grass*); "stem round, leaves flat with a triangular point, stalks of the spikes smooth, hairs thrice the length of the spikes." *E. Bot. t.* 563. *E. Fl. v. i. p.* 67.

Bogs. *Fl.* April—June. 4.

5. E. *pubéscens*, Sm. (*downy-stalked Cotton-grass*); "stem angular upwards, leaves flat lanceolate with a triangular point, stalks of the spikes downy, hairs twice the length of the spike." *E. Fl. v. i. p.* 68. *Hook. in E. Bot. Suppl. t.* 2633.—*E. angustif. Poit.*—*E. latifolium, Schrad. Germ. v. i. p.* 154, (excl. syn.)

Bogs and marshes, Scotland and Cambridgeshire, (*Sm.*) Anglesea, *Mr. Wilson.* South Kent, *Rev. G. E. Smith. Fl.* April—June. 4.

6. E. *angustifólium*, Roth, (*common Cotton-grass*); "stem nearly round, leaves linear triangular, channelled towards the base, stalks of the spikes smooth, hairs 4 times the length of the spike." *E. Bot. t.* 564. *E. Fl. v. i. p.* 69.

Turf-bogs, and muddy meadows, common. *Fl.* April. 4.

7. E. *grácile*, Roth, (*slender Mountain Cotton-grass*); "stem round with 3 slight angles, leaves triangular channelled towards the base, spikes longer than the bractea, hairs twice the length of the spike." *E. Bot. t.* 2402. *E. Fl. v. i. p.* 69.

On Ben Lawers and the Clova Mountains, in micaceous soil; *G. Don.* Cwm Idwell, North Wales; *Mr. Wilson. Fl.* July. 4.—I cannot satisfy myself of the validity of the characters of the many-spiked species of *Eriophora.* With regard to the *E. pubescens*, it is certainly very common both in America and this country, and I had always taken it for *E. polystachion.* It is assuredly the *E. latifolium* of Schrader, for he makes its character to depend on the *scabrous* (not really pubescent)

peduncles. Mr. Wilson has examined *E. polyst.*, *E. angust.* and *E. gracile*, in a living state, having seen them all growing together in Wales, and has sought carefully, but in vain, for permanent characters.

13. Nárdus. *Linn.* Mat-grass.

1. N. *stricta*, Linn. (*Mat-grass*); spike erect slender, the florets all pointing one way. *E. Bot. t.* 290. *E. Fl. v. i. p.* 70.

Moors and heaths, most abundant. *Fl.* June. ♃.—A grass of simple structure, growing in short tufts, so coarse and rigid that cattle will not eat it. *Culms* and *leaves* setaceous. *Spike* long, erect, grooved and toothed at short distances for the insertion of the florets. *Valves* of the *cor.* lanceolate, outer one coriaceous, purplish-green, tapering gradually into an awn: inner ones smaller, awnless, membranous. *Stam.* 3. *Style* and *stigma* single.

TRIANDRIA—DIGYNIA.

14. Alopecúrus. *Linn.* Fox-tail Grass.

1. A. *praténsis*, Linn. (*Meadow Fox-tail Grass*); culm erect smooth, panicle spiked cylindrical obtuse, calyx-glumes lanceolate acute hairy connate at the base, awn twice the length of the corolla. *E. Bot. t.* 759. *E. Fl. v. i. p.* 78.

Meadows and pastures, common. *Fl.* May, June. ♃.—1½ to 2 feet high: an excellent grass for cattle. *Panicle* of a yellow-green colour with silvery hairs. *Cal. and Cor.* much ciliated; in this, as in all the species, remarkably compressed.

2. A. *alpínus*, Sm. (*alpine Fox-tail Grass*); culm ascending smooth, panicle spiked ovate, cal. glumes ovate abruptly acute hairy united at the base, awn scarcely longer than the corolla, "upper sheath inflated thrice as long as its lanceolate leaf." *E. Bot. t.* 1126. *E. Fl. v. i. p.* 80.

Discovered by *Mr. R. Brown* on Loch na Gaar, in Aberdeenshire. It was pointed out to me by *Mr. T. Drummond* on wet rocks by a waterfall on the hills above Clova, Forfarshire.—*Fl.* July, Aug. ♃.—This plant which, even at first sight, is readily distinguishable by its ovate *panicle* and short broad upper *leaf*, with its inflated *sheath* (as first observed by Mr. Brown in the Appendix to Parry's 1st Voyage), seems to be quite unknown to Botanists abroad, and is very rare indeed in this country. It is, however, plentiful in North America and Spitzbergen.

3. A. *agréstis*, Linn. (*slender Fox-tail Grass*); culm erect scabrous above, panicle spiked cylindrical acuminate, calyx-glumes acute almost glabrous united as far as the middle. *E. Bot. t.* 848. *E. Fl. v. i. p.* 80.

Fields and way-sides. June, July. ⊙.—Readily known by its attenuated *panicles* or *spikes*, frequently of a purplish colour, and by the lanceolate, acute *cal. glumes*, which are glabrous or a little rough at the keel. *Corolla* quite smooth, with the *awn* 3 or 4 times its length.

4. A. *bulbósus*, Linn. (*tuberous Fox-tail Grass*); culm erect,

panicle spiked cylindrical acuminate, calyx-glumes acute slightly hairy free, root tuberous. *E. Bot. t.* 1249. *E. Fl. v. i. p.* 81.

Wet salt-marshes in England, but rare: near Yarmouth and Weymouth. In Cardiff marshes, Wales. *Fl.* July. 4.—The *inflorescence*, though very dense, is not a true spike. The *pedicels* mostly bear single flowers, but often another very small abortive one. *Calyx-glumes* entirely distinct to the base.

5. A. *geniculátus*, Linn. (*floating Fox-tail Grass*); culm ascending bent at the joints, panicle spiked cylindrical obtuse, calyx-glumes united at the base obtuse slightly hairy and fringed, awn twice as long as the corolla. *E. Bot. t.* 1250. *E. Fl. v. i. p.* 82.

In pools and wet and marshy places, sometimes on dry ground. *Fl.* July, Aug. 4.

6. A. *fúlvus*, Sm. (*orange-spiked Fox-tail Grass*); culm ascending bent at the joints, panicle spiked cylindrical obtuse, calyx-glumes united at the base obtuse slightly hairy and fringed, awn the length of the calyx. *E. Bot. t.* 1467. *Hook. Scot. i. p.* 22, (*under A. geniculatus*). *E. Fl. v. i. p.* 83. *A. geniculatus*, *Host, Gram. Austr. v. ii. t.* 32.

Ponds and ditches; near Birmingham; Norwich; Essex, *Mr. E. Forster*. And in Angus and Fifeshire, Scotland. *Fl.* July. 4.—I had certainly considered this plant, in *Fl. Scotica*, as not different from *A. geniculatus*. If there be any decisive mark of distinction, it must exist in the comparative length of the *awn*, should that prove constant.

15. Phálaris. *Linn.* Canary-grass.

1. P. *canariénsis*, Linn. (*cultivated Canary-grass*); panicle spiked ovate, cal. glumes boat-shaped entire at the point accompanied by the single valves of 2 other florets. *E. Bot. t.* 1310. *E. Fl. v. i. p.* 74.

Naturalized in many parts of England and Scotland. *Fl.* July. ⊙.—1—2 feet high, glaucous. *Leaves* broad. *Spikes* handsome, composed of large, pale yellow-green *calyx-glumes*, marked with deeper lines and singularly keeled at the back. *Canary-seed*, as we see it, is not only the seed of this plant, but the seed invested closely (as all *grass-seeds* are) with the pericarp, and that again with the hardened corolla, which occasions its glossy appearance and pointed form.

2. P. *arundinácea*, Linn. (*Reed Canary-grass*); panicle erect, its branches patent, florets clustered secund, imperfect floret consisting of a small hairy valve. *E. Bot. t.* 402, *and t.* 2160. *f.* 2. *E. Fl. v. i. p.* 74.—*Arundo colorata*, *Fl. Br.*—*Digraphis arund. Trin. and Lindl.*

Sides of lakes and rivers, common. *Fl.* July, Aug. 4.—Frequent in gardens, (and on the margin of a pond near Cardigan, *Rev. T. S. Tozer*,) with variegated leaves, and called *ribband-grass*. Very different from the last in general habit, but not in essential character. *Panicle* large, 6—8 inches long, often brownish or purplish-green. Excellent for securing river-banks; its roots are creeping, and here and there tufted.

16. Ammóphila. *Host.* Sea-reed.

1. A. *arundinácea*, Host, (*common Sea-reed, Marum, or Mat-weed*); panicle cylindrical acuminate, glumes acute, hairs one-third of the length of the corolla.—*Ammophila arenaria*, *Lindl. Syn. p.* 303.—*Arundo arenaria*, *E. Bot. t.* 520. *E. Fl. v. i. p.* 171.—*Psamma*, *Beauv.*

Sandy sea-shores, frequent. *Fl.* July. 4.—*Root* much creeping. *Leaves* long, narrow, rigid, involute, glaucous. *Culm* 2—3 feet high. *Cor.* far more rigid than the calyx, the larger *valves* with a small sinus below the point.—Extensively employed in Norfolk and Holland for preserving the banks of sand, which protect those countries from the inroads of the sea. It is called *Muran* in Gaelic (*Lightf.*), *Marram* in Norfolk.—A second species, *A. baltica*, is found on the shores of the Baltic.

17. Phléum. *Linn.* Cat's-tail-grass.

1. P. *praténse*, Linn. (*common Cat's-tail-grass, Timothy-grass*); panicle spiked cylindrical, cal. glumes truncate mucronate aristate ciliated at the back longer than the awn. *E. Bot. t.* 1076. *E. Fl. v. i. p.* 75.

Meadows and pastures, very common. *Fl.* June. 4.—*Root* sometimes tuberous, and then the plant is the *P. nodosum*, *Willd.*—*Cal. glumes*, as in all the species, extremely compressed, keeled, with a dorsal, green nerve, running out into a spreading awn, scarcely half so long as the valve.—This grass is the Highland badge of the clan Sutherland, whose crest is a Cat.

2. P. *alpínum*, Linn. (*alpine Cat's-tail-grass*); panicle spiked ovato-oblong, cal-glumes truncated mucronato-aristate ciliated at the back equal in length to the awn. *E. Bot. t.* 519. *E. Fl. v. i. p.* 76.

Rare; on the Breadalbane mountains and Garway Moor. *Fl.* July. 4.—*Spike* short, purplish.

3. P. *ásperum*, Jacq. (*rough Cat's-tail-grass*); panicle spiked cylindrical, cal. glumes wedge-shaped mucronate rough, stem often branched. *E. Bot. t.* 1077, (*P. paniculatum*). *E. Fl. v. i. p.* 76.

Rare in dry open fields, in the western and midland parts of England. *Fl.* July. ⊙.—*Culms* very leafy, and the long spikes are partly concealed among them. *Cal. glumes* tumid upwards.

4. P. *Boehméri*, Schrad. (*purple-stalked Cat's-tail-grass*); panicle spiked cylindrical, cal. glumes linear-lanceolate acuminato-aristate downy at the keel. *E. Bot. t.* 459, (*Phalaris phleoides, L.*) *E. Fl. v. i. p.* 77.

Dry sandy and chalky fields, rare, principally in Norfolk and Cambridgeshire. *Fl.* July. 4.—*Culms* simple, erect, sparingly leafy, slender, shining purple.

5. P. *Michélii*, All. (*Michelian Cat's-tail-grass*); panicle spiked cylindrical, cal. glumes lanceolate acuminate strongly ciliated at the back. *E. Bot. t.* 2265. *E. Fl. v. i. p.* 78.—*Phalaris alpina*, *Hœnke.*

Rocky parts of the high mountains of Clova, Scotland. *Fl.* July, Aug. ♃.—Distinguishable at once from the preceding species by its gradually tapering *glumes*.

6. P. *arenárium*, Linn. (*Sea Cat's-tail-grass*); panicle spiked oblongo-obovate, cal. glumes lanceolate acute ciliated at the back. *E. Bot. t.* 222, (*Phalaris aren.*) *Hook. Scot. i. p.* 24. *E. Fl. v. i. p.* 78.—"*Achnodon and Chilochloa, Link.*"

On loose sand, especially near the sea. *Fl.* May, June. ⊙.—*Culms* 5—6 inches high, many from the same root. *Cor.* twice as short as the *cal.*, membranous, truncated.

18. Lagúrus. *Linn.* Hare's-tail-grass.

1. L. *ovátus*, Linn. (*ovate Hare's-tail-grass*).—*E. Bot. t.* 1334. *E. Fl. v. i. p.* 167.

Very rare. Sandy fields by the sea in Guernsey. *Fl.* June. ⊙.—The only known species of the genus, remarkable for its soft hairy and pale heads of *flowers*, from among which the long *awns* are protruded.

19. Mílium. *Linn.* Millet-grass.

1. M. *effúsum*, Linn. (*spreading Millet-grass*); panicle glabrous, its branches subverticillate, leaves lanceolate, ligule obtuse. *E. Bot. t.* 1006. *E. Fl. v. i. p.* 87.

Moist shady woods. *Fl.* June. ♃.—*Culms* 3—4 feet high.

20. Gastrídium. *Beauv.* Nit-grass.

1. G. *lendígerum*, Beauv. (*awned Nit-grass*); cal. valves lanceolate acuminate, awn twice their length.—*Milium lendigerum*, *E. Bot. t.* 1107. *E. Fl. v. i. p.* 87.

Places where water has stagnated, near the sea, rare. In Sheppey; at Weymouth; and at Gillingham in Norfolk. *Fl.* Aug. ♃.—4 to 6 or 8 inches high, with numerous glossy *florets*, singularly swollen at the base. A genus very distinct from *Milium*.

21. Stípa. *Linn.* Feather-grass.

1. S. *pennáta*, Linn. (*common Feather-grass*); leaves rigid setaceous grooved, awns exceedingly long feathering to the point. *E. Bot. t.* 1356. *E. Fl. v. i. p.* 161.

Said to have been found in Dillenius' time in Westmoreland. *Fl.* June. ♃.—Surely not a native of this country, but of dry places in the south of Europe. A great ornament to our gardens in the summer, and to our rooms in the winter, for if gathered before the seed is ripe, the long feathering awns remain, and a tuft of this plant is almost as beautiful as the famed tail of the Bird of Paradise.

22. Polypógon. *Desf.* Beard-grass.

1. P. *monspeliénsis*, Desf. (*annual Beard-grass*); awns thrice as long as the rather obtuse rough valves of the cal. root annual. *E. Bot. t.* 1704, (*Agrostis panicea*). *E. Fl. v. i. p.* 85.—*Phleum crinitum*, *Sm. Fl. Br.*

Rare, in moist pastures near the sea. In Hampshire and Essex; near Cley, Norfolk. *Fl.* July, Aug. ⊙.—A beautiful grass, rare, but undoubtedly wild in our country; most abundant in the warmer parts of Europe.

2. P. *littorális*, Sm. (*perennial Beard-grass*); awns equal in length to the almost glabrous acute valves of the calyx, root perennial. *E. Bot. t.* 1251, (*Agrostis littoralis*). *E. Fl. v. i. p.* 86.

Muddy salt-marshes, rare. Near Cley, Norfolk, in Essex, and near Woolwich. *Fl.* July. 4.—Very different from the last species; but rightly referred, by Sir J. E. Smith, to *Polypogon*. The calyx-valves are more acuminated than in *P. monsp.*, and they taper more gradually into the much shorter awn; outer valve of the *cor.* truncate and toothed at the points in both.—It was long supposed peculiar to England, but is now found in Germany.

23. Calamagróstis. *Adans.* Small-reed.

1. C. *epigéjos*, Roth, (*Wood Small-reed*); cal. glumes subulate their keel rough, panicle erect close, flowers crowded unilateral, corolla with a dorsal awn nearly as long as the calyx. *Arundo epigejos, Linn. E. Bot. t.* 403. *E. Fl. v. i. p.* 169. (*excl. the syn. of Hook. Scot., Arundo Calamagrostis.*)

In shady moist places. About London and Norwich; Kent. Dalrymple Wood, Ayr, Scotland; *Mr. Goldie. Fl.* July. 4.

2. C. *lanceoláta*, Roth, (*purple-flowered Small-reed*); cal. glumes lanceolate their keel smooth, panicle erect loose, flowers scattered spreading, corolla with a very short terminal awn between the bifid point. *Arundo Calamagrostis, Linn. E. Bot. t.* 2159. *E. Fl. v. i. p.* 170.

Moist hedges and in fenny countries, not uncommon. *Fl.* June. 4. —*Panicle* much smaller and looser than the last, *flowers* more purple and shining.

3. C. *stricta*, Lindl. (*narrow Small-reed*); panicle erect close, cal. glumes broadly lanceolate acute, a little rough on the keel, corolla as long as the calyx longer than the hairs, with a dorsal awn equal to it in length. *Arundo stricta, E. Bot. t.* 2160. *E. Fl. v. i. p.* 171.

In Scotland; very rare. Discovered by *Mr. G. Don*, at White Muir Marsh, near Forfar; but it does not now exist there. Near Rescobie, 4 miles from Forfar, *T. Drummond. Fl.* June. 4.—A very distinct species; the smallest of the genus. *Panicle* 1—4 inches long. *Cal.* brown, glabrous except at the keel. *Cor.* brownish, truncate. *Hairs* not half the length of the flower.

24. Agróstis. *Linn.* Bent-grass.

1. A. *canina*, Linn. (*brown Bent-grass*); branches of the panicle long slender erecto-patent, cal. valves unequal lanceolate rough at the keel, corolla of 1 valve with a dorsal awn from below the middle, leaves linear. *E. Bot. t.* 1856. *E. Fl. v. i. p.* 90.—*Trichodium, Schrad. Lindl.*

Moist heaths and moory places, abundant. *Fl.* June, July. 4.—Very variable in the size and colour of its flowers, purple or green, and in the length of the dorsal *awn*, which is sometimes included within the calyx, at other times considerably exserted. I have never seen more than one valve to the corolla, not even the rudiment of a second; and it is from this circumstance that Schrader has constituted of it the genus *Trichodium*. But other species of *Agrostis* have a very reduced corolla, and *A. setacea*, placed in *Trichodium* by Mr. Lindley, has assuredly an inner corolla present, and that *constantly*. Smith and Leers have seen an inner valve to be sometimes present, even in *A. canina*; hence, as the former observes, its presence or absence does not here afford a specific character.

2. A. *setácea*, Curt. (*bristle-leaved Bent-grass*); branches of the panicle short close (spreading when in fl. *Mr. Tozer*), cal. valves unequal lanceolate rough at the keel, outer valve of the corolla with a long geniculated twisted awn from its base, inner very minute, leaves setaceous. *E. Bot. t.* 1188. *E. Fl. v. i. p.* 91.—*Trichodium, Rœm. and Sch., and Lindl.*

Very local, almost wholly confined to the dry downs of the extreme south and south-west parts of England; as Hampshire and Devonshire. *Mr. Tozer* of Truro, Cornwall, finds it to be the most prevailing grass in his neighbourhood, growing among furze and heath. It is mentioned in a list of Scottish plants communicated to me by *Mr. D. Don. Fl.* June, July. 4.—The Rev. Mr. Tozer has had the kindness to give me numerous specimens of this rare and little-known grass, which was long supposed to be peculiar to England. It is now ascertained to be plentiful in Portugal, the native country of *Erica ciliaris* and *Reseda fruticulosa*, which Mr. Tozer has also had the good fortune to find, truly wild, in Cornwall: affording an additional proof, if any were needed, of the great mildness of the climate in that district of England, and of its proximity in that respect to the more southern parts of Europe. Larger valves of the *corolla* white, thin, and membranous, truncate at the top with 4 green nerves, of which two, the lateral ones, project into mucros. *Awn* from the very base, rough, truly geniculated and twisted. Inner *valves* very small, truncate and toothed, accompanied on each side at the base by a pencil of white hairs. "On a sunny day the panicle is beautifully spreading, but it collapses very quickly in cloudy weather, or on being gathered." (*Tozer.*)

3. A. *Spica vénti*, Linn. (*silky Bent-grass*); panicle spreading, cal. valves unequal lanceolate rough at the keel, outer valve of the corolla bifid terminated by a long straight awn, inner one smaller with a small barren pedicel at its base. *E. Bot. t.* 951. *E. Fl. v. i. p.* 89.—*Anemagrostis, Trin. and Lindl.*

Rare, in sandy fields which are occasionally flooded, principally about London: in Norfolk and Lancashire. *Fl.* June, July. ⊙.—A beautiful grass, with very slender branches to its ample panicle, which is wavy and glossy like silk, well named by old Parkinson "*Gramen agrorum venti spica.*" *Awn* many times longer than the *cor.*, rough. Inner *valve*

of *cor.* not much smaller than the outer: at its base is a little pedicel. destitute of flower, which has a small tuft of hair on each side.

4. A. *vulgáris*, With. (*fine Bent-grass*); branches of the panicle smoothish, its branchlets diverging, outer valve of the cor. 3-nerved, ligule extremely short and truncate. *E. Bot. t.* 1671. *E. Fl. v. i. p.* 61.—*β. aristata*; outer valve of the cor. awned. *A. canina. With.*—*γ. pumila*; scarcely 3 inches high. *A. pumila, Lightf. Scot. p.* 1081. *fig. in title-page.*

Meadows, pastures, and banks, common everywhere. *Fl.* June, July. ♃.—*Root* creeping, throwing out many, mostly ascending *culms*, 1 or 1½ foot high. *Panicle* purplish; *rachis* smooth and the branchlets nearly so. *Cal. glumes* lanceolate, smooth, shining, rough on the back. *Cor. glume* of 2 thin, delicate, membranous, unequal valves. *Outer one* a little shorter than the *cal.*, 3-nerved, tridentate, awnlesss in *α*, bearing an awn of uncertain length, but mostly short in *β*, arising from the central nerve, a little below the middle of the back; *inner valve* half as small, 2-nerved, bifid.—I possess specimens of this species bearing the rudiment of a second flower upon a rather long foot-stalk, in the same calyx.

5. A. *álba*, Linn. (*Marsh Bent-grass*); branches of the panicle hispid, branchlets patent, outer valve of cor. 5-nerved, ligule oblong. *E. Bot. t.* 1189. *E. Fl. v. i. p.* 93. *Schrad. Germ. p.* 209, (*descr. excellent*).—*A. stolonifera, Linn. E. Bot. t.* 1532.

Pastures, road-sides, and in various other situations, abundant. *Fl.* July, August. ♃.—*Plant* stouter than the last, and generally taller. *Culms* ascending, often rooting at the base, and throwing out runners. *Panicle* rather contracted, pale green or purplish, branchlets patent. *Cal. glumes* as in *A. vulgaris*, as are those of the *cor.*, but the outer valve has 5 nerves and as many teeth, and the inner one is only faintly 2-or 3-nerved at the base, nearly entire and obtuse at the extremity. In some there is a short awn at the base of the outer valve of the *cor.*: this constitutes the *A. compressa, Willd.*, and sometimes the flowers are viviparous, which is the *A. sylvatica, Linn.* I believe all are now agreed that the *A. stolonifera* of authors is the same as *A. alba.* The famous Fiorin-grass of Dr. Richardson and the Irish agriculturists is what I have called *A. alba*, as I ascertained by the aid of specimens, gathered in the company of Dr. Richardson himself. I know not of any British awnless *Agrostides*, which may not be reduced either to *A. vulgaris*, or *A. alba.* The two species are indeed very closely united.

25. Catabrósa. *Beauv.* Whorl-grass.

1. C. *aquática*, Beauv. (*water Whorl-grass*); panicle with whorled patent branches, leaves broadly linear obtuse.—*Aira aquatica, Linn. E. Bot. t.* 1557. *E. Fl. v. i. p.* 101.

Banks of rivers, and floating in pools of water. *Fl.* May, June. ♃.—This is very different in habit and generic character from *Aira*, and from any other grass I am acquainted with. Mertens unites it with the long-spikeleted *Poas*, which now, with Smith, form the genus *Glyceria*; but it does not naturally combine with them. *Culms*, or rather caudex of

the root, very long, branched, floating, jointed, sending from the joints fibrous radicles below, and culms above, a foot or more long, stout, with short broad leaves. *Cal.* scarcely nerved, thin and membranous, broadly oval, obtuse. *Cor.* of a thick texture, brownish-green, white and diaphanous at the blunted extremity. Mr. Wilson finds, in the wet sand of the north shore of the river at Liverpool, a *var.* not two inches high, each calyx containing in general but one perfect flower.

26. Aíra. *Linn.* Hair-grass.

* *Corolla awnless. Panicle spiked.* (*Koeleria, Pers. Airochloa, Link, Lindl.*)

1. A. *cristáta*, Linn. (*crested Hair-grass*); panicle spiked smoothish, leaves hairy. *E. Bot. t.* 648. *E. Fl. v. i. p.* 101.—*Poa, Linn.*

Dry pastures; most frequent in the north, and especially near the sea. *Fl.* June, July. ♃.—6—8 inches high. *Leaves* linear, short, glaucous. *Spike* shining, ovato-lanceolate. *Glumes* of the *cal.* acute or slightly acuminate, lanceolate, compressed, glabrous or downy and a little rough at the keel. Inner valves of the *corolla* rough, white, delicate, reticulated, bifid, with two longitudinal plicæ.

** *Corolla awned. Panicle lax.*

2. A. *cæspitósa*, Linn. (*turfy Hairgrass*); panicle diffuse, branches scabrous, florets hairy at the base, rather longer than the cal., awn strait inserted near the base of, and not exceeding in length, the corolla. *E. Bot. t.* 1433. *E. Fl. v. i. p.* 102.—*Deschampsia, Beauv.*

Moist shady places, and borders of fields, plentiful. *Fl.* June—Aug. ♃.—Much tufted. *Culms* 2—4 feet high. *Leaves* linear, acuminate, rough at the margin. *Panicle* large, silvery-grey or greenish, much branched. *Spikelets* acute. *Cal. valves* unequal, lanceolate, subglabrous, rather acute, erose. *Florets* with a few longish hairs at the base: upper ones pedunculated; their valves ovate, obtuse, erose, the outer one with 5 short teeth, the inner bifid. Mr. Wilson finds it on Snowdon, viviparous, with the awn inserted above the middle of the valve; and at Llanberris with a small panicle and purple flowers.

3. A. *alpína*, Linn. (*smooth alpine Hair-grass*); panicle subcoarctate, branches and pedicels perfectly smooth, florets villous at the base; as long as the calyx, awn inserted above the middle and scarcely exceeding the cor. in length, leaves linear. *E. Bot. t.* 2102, (*A. lævigata*). *E. Fl. v. i. p.* 103.

Moist rocks on the higher Scottish mountains. Viviparous on Ben Cruachan, *Rev. Colin Smith;* and on Carnedd Llewellyn, Wales, *Mr. Wilson.* *Fl.* June, July. ♃.—About 1 foot high, very smooth. *Leaves* only scabrous to the touch on the upper side, short. *Panicle* rather small, branches erect; the lower ones, when viviparous (which they mostly are) patent and even drooping. *Spikelets* not numerous, larger than in *A. cæspitosa*, and more resembling, as does the whole plant, *A. flexuosa.* *Cal.*, valves equal, quite smooth. *Florets* with a short tuft of

hair at the base: *upper one* not pedicelate. Valves of the *cor.* lanceolate, acute, not compressed.—In *A. atropurpurea, Wahl.* the panicleis fewer-flowered, and the florets are considerably shorter than the calyx.

4. A. *flexuósa*, Linn. (*waved Hair-grass*); panicle (when flowering) diffuse, florets villous at the base as long as the cal., awn jointed inserted near the base of, but much longer than, the cal., leaves setaceous. *E. Bot. t.* 1519. *E. Fl. v. i. p.* 104.

Heaths and hilly places; abundant. *Fl.* July. ♃.—Habit of the last, but taller. *Florets* larger, and the awns protruded considerably beyond the calyx. Valves of the *cor.* as in the two last species.

5. A. *canéscens*, Linn. (*grey Hair-grass*); panicle rather dense, florets shorter than the calyx, awn clavate shorter than the calyx, leaves setaceous. *E. Bot. t.* 1190. *E. Fl. v. i. p.* 105.—*Corynephorus, Beauv. Lindl.*

On the sandy sea-coasts of Norfolk and Suffolk. *Fl.* July. ♃.—Remarkable in this genus for having its awn clavate, and bearing, at the joint, a tuft of hairs.

6. A. *caryophýllea*, Linn. (*silvery Hair-grass*); panicle divaricated, florets scarcely villous at the base shorter than the cal., awn inserted below the middle jointed longer than the cal., leaves setaceous. *E. Bot. t.* 812. *E. Fl. v. i. p.* 106.

Gravelly hills and pastures, frequent. *Fl.* June, July. ♃.—2—6 or 8 inches high. *Leaves* short, few. *Panicle* trichotomous. *Florets* silvery-grey. *Cal. valves* nearly equal, lanceolate, the upper part pellucid and white. *Valves* of the *cor.* scabrous at the back, unequal, apex bifid.

7. A. *prǽcox*, Linn. (*early Hair-grass*); panicle somewhat spiked, florets scarcely villous at the base about as long as the cal., awn twisted inserted below the middle longer than the cal., leaves setaceous. *E. Bot. t.* 1296. *E. Fl. v. i. p.* 105.

Sandy hills and pastures. *Fl.* May, June. ☉.—1—3 inches high. *Panicle* few-flowered, pale silvery-green. *Valves* of the *cor.* lanceolate, scabrous, when seen under a good glass; those of the *cor.* narrow, acuminate, scabrous; the point bifid.

27. Mélica. *Linn.* Melic-grass.

1. M. *nútans*, Linn. (*Mountain Melic-grass*); panicle nearly simple racemed secund, spikelets drooping ovate 2-flowered. *E. Bot. t.* 1059. *E. Fl. v. i. p.* 112.

Woods, in somewhat mountainous countries; especially in the north of England and Scotland.—*Fl.* May, June. ♃.—One foot or more high, leafy. *Leaves* linear-lanceolate. *Cal. glumes* ovate, convex, nerved, deep purple-brown, margin pale. *Valves* of the *cor.* cartilaginous, unequal, nerved, outer one large. Between the two perfect florets is the rudiment of a third, pedicellate, consisting of a 2-valved hardened *cor.* without either pistil or stamen.

2. M. *uniflóra*, Linn. (*Wood Melic-grass*); panicle branched

slightly drooping, spikelets erect ovate with only one perfect floret. *E. Bot. t.* 1058. *E. Fl. v. i. p.* 112.

Shady woods, frequent. *Fl.* May—July. ♃.—Imperfect floret on rather a long footstalk. *Leaves* broader than the last, and whole plant larger. *Scale* of one piece, orange-coloured, thick, " covered by the outer glume of the corolla," (*Wilson.*)

3. M. *cærúlea*, Linn. (*purple Melic-grass*); panicle erect subcoarctate, spikelets erect oblongo-cylindrical, floret much longer than the calyx. *E. Bot. t.* 750. *E. Fl. v. i. p.* 113.—*Molinia, Schrank, Lindl.*—*β.* panicle pale green, spikelets fewer-flowered. *M. alpina, Don.*—*M. depauperata, Lindl.*

Wet heathy places and moors, frequent.—*β.* Clova Mountains, *D. Don. Fl.* Aug. ♃.—Habit very different from the last, but scarcely distinguishable in generic character. *Culms* 1—2 feet high or more. All the *leaves*, which are long and linear, acuminated, springing from the base or from a single joint immediately above it. *Panicle* from 2—8 inches in length, bluish-purple, rarely, and perhaps only when growing in much sheltered situations, green. *Cal. valves* lanceolate, nearly equal. *Florets* generally 2 perfect and 1 sterile. *Anthers* large, purple.—Brooms are made of the culms in England, according to Withering; and in Skye, Lightfoot says, the fishermen twist them into excellent ropes for their nets.

28. Hólcus. *Linn.* Soft-grass.

1. H. *móllis*, Linn. (*creeping Soft-grass*); cal. valves acuminate, imperfect flower with an exserted geniculated awn, joints of the culm with a tuft of hairs, root creeping. *E. Bot. t.* 1170. *E. Fl. v. i. p.* 108.

Pastures and hedges, common. *Fl.* July. ♃.—Mr. Wilson well observes that this species is distinguished by the acute (or almost acuminate) calyx-glumes and downy joints of the culm.

2. H. *lanátus*, Linn. (*Meadow Soft-grass;*) cal. valves rather obtuse mucronate, imperfect flower with a curved awn included within the cal., no tuft of hairs at the joints, root fibrous. *E. Bot. t.* 1169. *E. Fl. v. i. p.* 107.

Meadows, pastures, and woods, common. *Fl.* June, July. ♃.—Much resembling the last in general appearance, but clothed with a softer and more abundant pubescence.

29. Arrhenathérum. *Beauv.* Oat-like grass.

1. A. *avenáceum*, Beauv. (*common Oat-like grass*). *Lindl. Syn. p.* 305.—*Holcus avenaceus, Scop.*—*E. Bot. t.* 813. *E. Fl. v. i. p.* 108.—*Avena elatior, Linn.*

Hedges and pastures, frequent. *Fl.* June, July. ♃.—I am not aware that more than one species exists of this genus. The *Avena precatoria* of *Thuill.*, *Aena nodosa* of *Cullum*, *Arrh. bulbosum*, *Dunal* and *Lindl.*, are but varieties with a knotted or tuberous base to the stem.—2—3 feet high. *Panicle* long, loose. *Spikelets* greenish-brown.

30. Hierόchloe. *Gmel.* Holy-grass.

1. H. *boreális*, Roem. et Schult. (*northern Holy-grass*); panicle subsecund, peduncles glabrous, florets awnless, outer valves of the cor. ciliated at the margin. *Hook. Scot. i. p.* 28, *id. in E. Bot. Suppl. t.* 2641. *E. Fl. v.* 1. *p.* 110.—*Holcus odoratus, Linn. Sm.* —*Holc. borealis, Schrad.*

In a narrow mountain-valley, called *Kella*, in Angus-shire, *G. Don*, *Fl.* July. 4.—A valuable discovery of the late acute Mr. G. Don. About 1 f. high, glabrous. *Leaves* linear-acuminate. *Panicle* brownish, glossy. *Spikelets* broadly ovate. *Cal. valves* ovate, acute, rather unequal, sometimes a little serrated at the point. *Florets* rather longer than the *cal.* and the outer valves of a firmer texture, scabrous when highly magnified, distinctly fringed at the margin, the point sharp, but not awned. *Central floret* the smallest.—Smell resembling that of *Anthoxanthum odoratum.* In Iceland it is so plentiful as to be used by the people to scent their apartments and clothes.

31. Seslέria. *Linn.* Moor-grass.

1. S. *cærúlea*, Scop. (*blue Moor-grass*); panicle spiked ovate bracteated, outer valve of the cor. with one short terminal awn. *E. Bot. t.* 1613. *E. Fl. v. i. p.* 114.—*Cynosurus cær. Linn.*

Mountains in the north of England and Scotland, especially abundant in limestone regions. *Fl.* April—June. 4. One of our earliest grasses and a very beautiful one. The *roots* much tufted; plants 6—12 or 18 inches high. *Leaves* linear, obtuse. *Spike* of a shining bluish-grey, with large yellow *anthers* tipped with purple. *Spikelets* generally in pairs, oblongo-ovate, the lower ones with an ovate ciliated and toothed bractea at the base. *Cal. valves* ovato-lanceolate, 3-toothed, middle tooth lengthened into an awn and often bifid, pubescent at the keel and margin. *Florets* longer than the cal. *Valves* of the *cor.* oblongo-ovate: *ext.* one ribbed, pubescent and ciliated or jagged with about 5 teeth, the middle tooth lengthened into a short awn; *int.* valve bifid at the point.

32. Pánicum. *Linn.* Panick-grass.

1. P. *Crus-galli*, Linn. (*loose Panick-grass*); spikes alternate secund divided or simple, flowers imbricated, the cal. and ext. valve of the cor. of the neuter flower hispid awned or mucronated, int. valve of the cor. of the perfect floret with a hispid mucro, rachis hispid. *Br.—E. Bot. t.* 876. *E. Fl. v. i. p.* 99.—*P. Crus-corvi, Linn.—Echinochloa, Beauv. Lindl.*

Fields near London: but probably introduced. *Fl.* July. ⊙.

33. Setária. *Beauv.* Bristle-grass.

1. S. *verticilláta*, Beauv. (*rough Bristle-grass*); panicle spiked lobed below, branches whorled, bristles of the involucre rough with reversed teeth.—*Panicum verticillatum, Linn.—E. Bot. t.* 874. *E. Fl. v. i. p.* 98.

In cultivated fields, about London and Norwich; probably not indigenous. *Fl.* July, Aug. ⊙.

2. S. *víridis*, Beauv. (*green Bristle-grass*); panicle spiked continuous, bristles of the involucre rough with erect teeth.—*Panicum viride*, *Linn.*—*E. Bot. t.* 875. *E. Fl. v. i. p.* 99.

Fields, about London and Norwich; scarcely indigenous. *Fl.* July, Aug. ♃.

34. Póa. *Linn.* Meadow-grass.

* *Spikelets linear or subcylindrical.* Glyceria, *Sm.* and, in part, *Br.*

1. P. *aquática*, Linn. (*Reed Meadow-grass*); panicle erect very much branched, spikelets linear of about 6 obtuse florets which have 7 ribs. *E. Bot. t.* 1315.—*Glyceria aquat*, *E. Fl. v. i. p.* 116.—*Hydrochloa*, *Hartman*, *Lindl.*

Sides of rivers, ponds and ditches. *Fl.* July, Aug. ♃.—4—6 feet high, erect. *Leaves* linear, lanceolate, rough. *Ligule* short, obtuse. *Cal.* valves small, ovate, obtuse, membranous, smoothish. *Ext. valves* of *cor.* twice as large as the calyx, *int.* narrower and bifid at the point.

2. P. *flúitans*, Scop. (*floating Meadow-grass*); panicle nearly erect slightly branched, spikelets linear appressed of from 7 to 11 obtuse florets which have 7 ribs with short intermediate ones at the base, root creeping. *E. Bot. t.* 1520.—*Glyceria fluitans*, *Br. E. Fl. v. i. p.* 116.—*Festuca*, *Linn.*

Ditches and stagnant waters, abundant. *Fl.* July, Aug. ♃.—*Culms* 1—3 feet high, thick and succulent. *Leaves* linear-lanceolate, acute. *Ligule* oblong, pointed. *Panicle* subsecund, very long, slender, *cal.* valves unequal, small, ovate, membranous, obtuse. *Cor.* valves ovato-oblong, thrice as long as the *cal.*; outer ones scabrous. The scale is of 1 thick fleshy piece, which is the principal character of Mr. Brown's genus *Glyceria*.—This species is found in New Holland. The *seeds* constitute the *Manna* of our shops, and they are gathered abundantly in Holland, where as well as in Poland and Germany they are used as food. De Théis says, "I have seen the Polanders in the suite of King Stanislaus gather these *Manna-seeds* with great care on the banks of the Meurthe."

3. P. *marítima*, Huds. (*creeping Sea Meadow-grass*); panicle erect subcoarctate (rigid), spikelets linear of about 5 obtuse florets which are obsoletely 5-nerved, leaves convolute, root creeping. *E. Bot. t.* 1140.—*Glyceria marit*, *E. Fl. v. i. p.* 118.—*Sclerochloa*, *Lindl.*

Sea-coast, frequent. *Fl.* July, Aug. ♃.—8—12 inches high, rigid, glaucous. *Leaves* involute, somewhat pungent. *Ligule* ovate, bluntish. *Glumes* all firm, cartilaginous, purplish. *Cal.* valves nearly as large as the *cor.*, with mostly 3 ribs. *Florets* hairy at the base, sometimes purplish.

4. P. *dístans*, Linn. (*reflexed Meadow-grass*); panicle spreading, branches at length deflexed, spikelets linear of about 5 obtuse florets which are obsoletely 5-nerved, leaves plane, root fibrous. *E. Bot. t.* 986.—*Glyceria distans*, *E. Fl. v. i. p.* 118.

Sandy ground, principally near the sea. Near Dublin, *Mr. W. Wilson*. *Fl.* July, Aug. ♃.—One foot high. *Leaves* linear, plane, not pungent. *Ligule* short, obtuse. Branches of the panicle singularly deflexed, slen-

der. *Spikelets* much shorter than in the last species. *Glumes* membranous, softer. *Cal.* valves much smaller than the *cor.*, unequal, larger one obscurely 3-nerved.—Allied to the last, but very distinct.

5. P. *procúmbens*, Curt. (*procumbent Sea Meadow-grass;* panicle compact ovato-lanceolate disticho-secund (rigid), spikelets linear-lanceolate of about 4 florets which are 5-ribbed. *E. Bot. t.* 532.—*Glyceria procumb, E. Fl. v. i. p.* 119.—*Sclerochloa, Beauv. Lindl.*

Salt-marshes in various places, apparently not uncommon. *Fl.* June, Aug. ⊙.—*Culms* procumbent, 6—8 inches long, glaucous. *Leaves* linear, obtuse. *Ligule* short, very blunt. *Panicle* about 2 inches long, branches patent, distichous, their *spikelets* secund. *Cal.* valves smaller than the floret, obtuse, strongly ribbed. *Florets* oblong, distant upon the rachis. Inner valve of *cor.* membranous, bifid at the point.

6. P. *rígida*, Linn. (*hard Meadow-grass*); panicle lanceolate disticho-secund (rigid), spikelets linear acute of about 7 florets which are almost ribless, root fibrous. *E. Bot. t.* 1371.—*Glyceria rigida, E. Fl. v. i. p.* 119.—*Sclerochloa, Beauv. Lindl.*

Walls, rocks, and dry barren soils, frequent. *Fl.* June. ⊙.—Whole plant very rigid and wiry, 3—5 inches long, ascendant or erect. *Leaves* rigid, linear, setaceous. *Ligule* oblong, jagged. *Rachis* angled, sometimes at once bearing the spikelets (when it much resembles *Triticum loliaceum*) but more usually throwing out branches. *Cal.* valves nearly as long as the *cor.*, ribbed. *Florets* almost entirely ribless, linear-oblong, rather distant, smooth, bluntish.

7. P. *compréssa*, Linn. (*flat-stemmed Meadow-grass*); panicle subsecund spreading (afterwards subcoarctate), spikelets oblong of 5—7 obtuse flowers connected by a web, culm compressed, root creeping. *E. Bot. t.* 365. *E. Fl. v. i. p.* 131.

On walls, and in dry barren ground, frequent. *Fl.* June, July. ♃.—One foot or more high, rather glaucous. *Culms* compressed, procumbent at the base. *Leaves* short, linear, acute. *Ligule* very short, blunt. *Panicle* not much branched. *Cal. valves* ribbed, acute. *Valves* of *cor.* obtuse, outer one very obsoletely ribbed; the lower florets webbed at the base.—Intermediate as it were between the present and the following division.

** *Spikelets ovate.* Poa, *Smith.*

8. P. *alpína*, Linn. (*alpine Meadow-grass*); panicle diffuse, spikelets ovate of 4—5 acute flowers hairy below (but not webbed), leaves broadly linear obtuse, ligule of the upper leaves oblong acute, of the lower ones short obtuse. *E. Bot. t.* 1003.—β. *glomerata;* spikelets densely crowded. *D. Don, MSS. Hook. Scot. i. p.* 34.

Extremely abundant on the lofty mountains of Scotland and Wales, and very generally viviparous.—β. Banks of the Esk, *G. Don.*—*Fl.* July, Aug. ♃.—6—12 inches high, nearly erect. *Leaves* short, linear, obtuse, with a very small mucro. *Spikelets* rather large, close. *Cal.* valves ovato-lanceolate, much compressed; dorsal rib scabrous, terminating in a very short point or awn, with a short lateral rib or nerve at the base.

Ext. valves of the *cor.* ovato-lanceolate, acute; dorsal rib scabrous, no lateral ones: lower part villous; upper part glabrous, purple, margin diaphanous: *int. valves* notched or bifid at the extremity.

9. P. *láxa*, Hænk. (*wavy Meadow-grass*); panicle contracted lax slightly drooping, spikelets ovate of about 3 flowers which are acute connected by a web, leaves narrow-linear acute, ligules all lanceolate. *E. Fl. v. i. p.* 122.—*Poa flexuosa*, *E. Bot. t.* 1123.

Found on Ben Nevis by the late *Mr. John Mackay*. *Fl.* July. 4.—A very slender subglaucous grass, scarcely able to support the weight of its own *paniele*, which consequently droops slightly. *Leaves* more numerous than in *P. alpina*, and much narrower. *Florets* very obscurely ribbed, all very acute, green and purple, with diaphanous margins. *Cal. valves* nearly equal, pubescent on the keel, as is the *cor.*, which is also webbed.

10. P. *bulbósa*, Linn. (*bulbous Meadow-grass*); panicle close subspicate, spikelets ovate 4-flowered, florets downy at the keel connected by a web, leaves with a white narrow serrated cartilaginous margin, stems swollen at the very base. *E. Bot. t.* 1071. *E. Fl. v. i. p.* 123.

East and south of England, principally on sandy sea-shores. *Fl.* Apr. May. 4.—A singular and very distinctly marked species, soon withering after flowering, and then its bulbs are blown about in great quantities on the surface of the sand. It forms the principal part of the herbage on the *Denes* at Yarmouth. Sir J. E. Smith mentions the circumstance of the plant, being viviparous at Rome: so are my specimens from Germany.

11. P. *triviális*, Linn. (*roughish Meadow-grass*); panicle diffuse, spikelets oblongo-ovate of about 3 flowers which are acute 5-nerved connected with a web, culms and sheaths roughish, ligule oblong, root fibrous. *E. Bot. t.* 1072. *E. Fl. v. i. p.* 124.

Meadows and pastures, common. *Fl.* June, July. 4.—1—2 feet high. *Leaves* linear, acute. *Panicle* much branched.—An excellent grass for pasturage and for hay: as is the following species.

12. P. *praténsis*, Linn. (*smooth-stalked Meadow-grass*); panicle diffuse, spikelets oblongo-ovate of about 4 flowers which are acute 5-nerved webbed, culm and sheath smooth, ligule short, root creeping. *E. Bot. t.* 1073. *E. Fl. v. i. p.* 125.—β. *angustifolia;* smaller and with narrower leaves. *P. angustifolia*, *Linn.*—γ. *subcærulea;* smaller and glaucous. *P. humilis*, *Ehrh. Gram.*—*P. subcærulea*, *E. Bot. t.* 1004.

Meadows and pastures, frequent.—β. "in woods."—γ. on walls or dry places, especially in alpine countries. *Fl.* June, July. 4.—Allied to the last, but very constant to the character above given.—β and γ appear to be starved states of the plant.

13. P. *ánnua*, Linn. (*annual Meadow-grass*); panicle subsecund divaricated, spikelets oblongo-ovate of about 5 flowers which are a little remote 5-ribbed destitute of web, culm ascending compressed, root fibrous. *E. Bot. t.* 1141. *E. Fl. v. i. p.* 127.

Meadows and pastures, and by road-sides, everywhere. *Fl.* all spring and summer. ⊙.—*Culms* 6—10 inches long, below prostrate and throwing out roots. *Leaves* distichous, linear, rather blunt, flaccid, often waved, bright-green. *Ligule* oblong, acute. *Cal.* valves very unequal, ovato-lanceolate, rough at the back, nerved. *Ext.* valve of *cor.* ovato-lanceolate, acute, white and diaphanous at the margin, keel and base hairy.

14. P. *nemorális,* Linn. (*wood Meadow-grass*) ; panicle slender slightly leaning one way lax attenuate, spikelets ovato-lanceolate of about 3 rather distant slightly-webbed flowers, ligule short truncate, culms subcompressed and sheaths glabrous, root scarcely creeping. *E. Bot. t.* 1265. *E. Fl. v. i. p.* 129.—*β. glauca ;* plant smaller and everywhere glaucous. *Hook. Scot. i. p.* 35.—*P. glauca, E. Bot. t.* 1720. *E. Fl. v. i. p.* 128.—*P. cæsia, E. Bot. t.* 1719.—*P. glauca, β. Wahl.—E. Fl. v. i. p.* 128.

Common in woods and thickets.—*β.* abundant on the Welsh and Scotch Alps. *Fl.* June, July. ♃.—1—3 feet high, slender and delicate in all its parts. *Leaves* narrow, linear, acute. *Panicle* with the branches almost erecto-patent. *Spikelets* scattered. *Cal.* valves unequal, ovato-lanceolate, acute, rather obscurely ribbed. *Ext.* valve of the *cor.* lanceolate, obscurely ribbed, pubescent on the keel and hairy at the base, very slightly webbed. *Inner* valves, as I believe in most, if not all of the Genus, bifid at the point.—Sir J. E. Smith has, in *E. Fl.* united his *P. cæsia* with *P. glauca;* making it his var. *β.*, and now when I learn from the same author that it is a plant gathered by Mr. Turner and myself on Ben Lawers, I am more persuaded than ever that it is but an alpine state of *P. nemoralis.* Mr. Wilson is of the same opinion, an opinion founded on the most careful examination of specimens gathered in Wales and Scotland.

35. Tríódia. *Br.* Heath-grass.

1. T. *decúmbens.* Beauv. (*decumbent Heath-grass*); panicle of few racemed spikelets, cal. as long as the flowers, ligule a tuft of hairs. *E. Fl. v. i. p.* 131.—*Poa decumbens, E. Bot. t.* 131.—*Festuca dec., Linn.*

Abundant in dry mountain-pastures, heaths and moors. *Fl.* July, ♃. —1 foot long, procumbent, flowering culms only erect. *Leaves* linear, acuminate, hairy as well as the sheaths. *Cal. valves* nearly equal, lanceolate, acute, nerved, with broad, thin margins, scabrous on their keels. *Ext.* valve of the *cor.* ovate, nerved or ribbed, having a small tuft of hairs on each side at the base; apex with three teeth, middle one the longest, forming an awn: *int.* valve obtuse, entire at the point, ciliated at the angles of the fold.—In habit very distinct from *Poa.*

36. Bríza. *Linn.* Quaking-grass.

1. B. *média,* Linn. (*common Quaking-grass*); spikelets broadly ovate of about 7 flowers, cal. shorter than the florets. *E. Bot. t.* 340. *E. Fl. v. i. p.* 133.

Meadows and pastures, frequent. *Fl.* June. 4.—Whole plant very elegant. *Culms* slender, 1 f. or more high. *Leaves* short, linear, acuminate. *Stipules* short, obtuse. *Panicle* considerably branched, branches thread-shaped, divaricating, purple. *Spikelets* tremulous with the slightest breeze, very smooth, shining purple, more or less green, or greenish white, at the edges. *Cal.* valves very concave, subcompressed. *Ext.* valve of *cor.* much like the *cal.*, but rather smaller; *int.* one minute, resembling a flat scale within the outer one.

2. B. *minor*, Linn. (*small Quaking-grass*); spikelets triangular about 7-flowered, cal. longer than the florets. *E. Bot. t.* 1316. *E. Fl. v. i. p.* 132.

Fields in the extreme south of England, very rare. About Bath, in Cornwall, Guernsey, and Jersey.—*Fl.* July. ⊙.—Whole plant much smaller than the last. *Stipules* elongated, acute.

37. Dáctylis. *Linn.* Cock's-foot-grass.

1. D. *glomeráta*, Linn. (*rough Cock's-foot-grass*); panicle crowded secund, cor. acuminate somewhat awned. *E. Bot. t.* 335. *E. Fl. v. i. p.* 134.

Way-sides, meadows and woods, abundant. *Fl.* July. 4.—1—2 feet high. *Leaves* rather broadly linear, acuminate, scabrous. *Panicles* secund. *Spikelets* of 3—4 florets, thickly clustered on the branches, clusters ovate. *Valves* of the *cal.* membranous, smaller than the *cor.*, lanceolate, acuminate, unequal, glabrous, scabrous at the back of the valves, which are more or less obliquely keeled. *Ext.* valve of *cor.*, subcartilaginous, lanceolate, much compressed, scabrous, ribbed, ciliated at the keel, with a short awn at the point: *int.* bifid at the extremity.—Said to be advantageously cultivated for cattle.

38. Cynosúrus. *Linn.* Dog's-tail-grass.

1. C. *cristátus*, Linn. (*crested Dog's-tail-grass*); raceme spiked linear, florets with a very short awn. *E. Bot. t.* 316. *E. Fl. v. i. p.* 157.

Dry pastures, frequent. *Fl.* July. 4.—1—1½ f. high, slender. *Leaves* narrow, linear, acuminate. *Raceme* secund. *Involucres* beautifully pectinated, one at the base of each spikelet, their divisions linear, acute, greenish, subglumaceous, a little curved, rough. *Spikelets* 3—5-flowered. *Cal. valves* lanceolate, nearly equal, membranous, rough at the keel, as long as the floret. *Ext. valve* of *cor.* lanceolate, obscurely nerved, green, scabrous, especially at the keel, terminating in a short rough awn; *int.* white, bifid, pubescent at the angles of the fold.—An excellent grass for dry pastures.

2. C. *echinátus*, Linn. (*rough Dog's-tail-grass*); raceme in an ovate spike, florets with awns as long as the cor. *E. Bot. t.* 1333. *E. Fl. v. i. p.* 137.

Sandy sea-shores of the extreme south of England, as Kent and Sussex; but principally in Jersey. *Fl.* July. ⊙.

39. Festúca. *Linn.* Fescue-grass.

1. F. *ovína*, Linn. (*Sheep's Fescue-grass*); panicle subsecund subcoarctate, spikelets oblong of about 4—5 flowers with short awns, culms square upward, leaves setaceous. *E. Bot. t.* 585. *E. Fl. v. i. p.* 139.—β. (Sm.) *rubra;* with a purplish panicle. *F. rubra, With.*—γ. (Sm.) *cæsia;* plant glaucous. *E. Fl.*—*F. cæsia, E. Bot. t.* 1917.—δ. (Sm.) *tenuifolia;* leaves longer and very slender more numerous, florets acuminate awnless. *F. tenuifolia, Sibth. Schrad.*—ε. *vivipara;* plant taller, flowers viviparous. *F. ovina* β. *Linn. Hook.*—γ. *Schrad.*—*F. vivipara, E. Bot. t.* 1355. *E. Fl. v. i. p.* 140.

Abundant on dry elevated pastures.—ε. Frequent on the mountains of Wales and Scotland. *Fl.* June, July. ♃.—*Leaves* mostly short, often curved, smooth or slightly scabrous, much tufted and affording excellent food for sheep. Dr. Macculloch says that the greater portion of the vegetation in the Hebrides is composed of this and the following species. *Culm* 4—8 inches or a foot high, in the upper part more or less distinctly 4-sided. *Cal.* valves much shorter than the *cor.*, acute, subglabrous. *Cor. ext. valve* more or less glabrous, sometimes pubescent upward or even hairy, (*F. hirsuta, Host,*), terminated by an awn, which, though varying in size and in δ. obsolete, at the utmost does not exceed half the length of the valve.—Whole plant more or less glaucous and having a purple tint in the spikelets. *F. vivipara, Sm.* affords no character by which it may be distinguished from *F. ovina.* I should be more inclined to consider the *F. tenuifolia* of Sibth. distinct, than any other of the *vars.*

2. F. *duriúscula*, Linn. (*hard Fescue-grass*); panicle subsecund subcoarctate, spikelets oblong of about 6 flowers with short awns, stem-leaves nearly plane, radical ones subsetaceous, root fibrous. *E. Bot. t.* 470. *E. Fl. v. i. p.* 141.

Pastures and waste ground. *Fl.* June, July. ♃.—The *leaves* on the stem are sometimes convolute, and then they appear setaceous. 1—1½ f. high, by which size and its stouter habit, it is better distinguished from *F. ovina*, than by any character I can discover. It is possible that viviparous states of this may be confounded with the *F. vivipara* of Smith.

3. F. *rúbra*, Linn. (*creeping Fescue-grass*); "panicle unilateral spreading, florets longer than their awns, leaves downy on their upper side, more or less involute, root extensively creeping." *E. Bot. t.* 2056. *E. Fl. v. i. p.* 141.—*F. duriuscula*, β. *Hook. Scot. i. p.* 38.

Light sandy pastures, near the sea, plentiful; and "in mountain pastures and alpine precipices." *Fl.* July. ♃.—In deference to the opinion of the lamented author of *E. Bot.* and other able Botanists, I again restore this plant, which I had before considered a *var.* of *F. duriuscula*, to the rank of a species. At the same time I must observe that its only characteristic exists in the creeping root; and may not this be owing to a peculiarity in soil and other accidental circumstances?

4. F. *bromoídes*, Linn. (*barren Fescue-grass*); panicle secund racemed, florets shorter than the awn monandrous, culm above leafless. *E. Bot. t.* 1411. *E. Fl. v. i. p.* 142.

Dry pastures and on walls; less frequent in Scotland, but not rare about Edin. *Fl.* June. ⊙. (♂. *Schrad.*)—6—8 inches high. *Leaves* linear, setaceous, complicate. *Cal. valves* very unequal, lanceolate, acuminate, nerved, rough at the keel. *Florets* about 6 in each spikelet. *Ext. valve* of *cor.* linear-lanceolate, scabrous, tapering into a strait awn, thrice the length of the valve.

5. F. *Myúrus*, Linn. (*Wall Fescue-grass*); panicle secund elongated contracted, florets shorter than the awn monandrous, culm leafy in its upper part. *E. Bot. t.* 1412. *E. Fl. v. i. p.* 143.

Walls and barren places; frequent in England, not common in Scotland. *Fl.* June. ⊙.—Much resembling the last, but taller. 1 f. high. *Leaves* shorter, their *sheaths* longer, and springing even from the upper part of the culm. *Panicle* often 4—5 inches long. *Cal. valves* and *florets* narrow, rather more scabrous; *awns* longer.

6. F. *uniglúmis*, Soland. (*single-glumed Fescue-grass*); panicle a simple erect two-ranked subsecund raceme, one valve of the calyx obsolete. *E. Bot. t.* 1430. *E. Fl. v. i. p.* 143.—*Stipa membranacea, Linn.? (Sm.)*

On the sandy sea-coast, principally of Sussex. On the coasts of Essex, Suffolk, Dorsetshire, and Anglesea. *Fl.* June. ⊙. (♂. Sm.).—This plant is remarkable for the suppression of one of the *valves* of its *cal.*, by which the species is at once known.

7. F. *calamária*, Sm. (*Reed Fescue-grass*); panicle subsecund much branched spreading nearly erect, spikelets oblong awnless 3—5-flowered, leaves linear-lanceolate. *E. Bot. t.* 1005. *E. Fl. v. i. p.* 145.—*Schedonorus sylvaticus, Beauv. Lindl.*—*β. minor; E. Fl. v. i. p.* 146.—*F. decidua, E. Bot. t.* 2266.

Mountainous woods, not uncommon. *Fl.* July. ♃.—2—3 feet high, with large and broad *leaves*. *Cal. valves* narrow, linear-lanceolate, very unequal, smaller one single-nerved, larger with 3 nerves. *Florets* rather distant upon the rachis. *Ext. valve* of *cor.* scabrous, lanceolato-acuminate.

8. F. *loliácea*, Huds. (*spiked Fescue-grass*); raceme spiked distichous, spikelets linear-oblong nearly sessile remote, florets cylindrical awnless, outer valve of cor. obtuse. *E. Bot. t.* 1821. *E. Fl. v. i. p.* 146.—*Schedonorus, Dumort. Lindl.*

Moist pastures and meadows, not unfrequent. *Fl.* June, July. ♃.—2. f. high. *Leaves* few, short, linear, acute. *Racemes* 2—5 inches long; *raehis* flexuose; *spikelets* nearly sessile, especially the upper ones, 5—6-flowered. *Cal. valves* unequal, lanceolate, acute, 7-ribbed. *Outer valves* of the *cor.* ovato-lanceolate, nerved, diaphanous at the apex and obtuse, (hence scarcely agreeing with the generic character;) slightly scabrous only on the nerves.

9. F. *praténsis*, Huds. (*Meadow Fescue-grass*); panicle patent branched, spikelets linear many-flowered, florets cylindrical awnless,

outer valve of cor. acute, leaves linear, root fibrous. *E. Bot. t.* 1592. *E. Fl. v. i. p.* 147.—*Schedonorus, Beauv. Lindl.*

Moist meadows and pastures, common. *Fl.* June, July. ♃.—1—2 f. high. Distinguished at first sight from the last by its *panicle*, (not spiked *raceme*); also by the *florets*, which, though much resembling the last, have their outer valve more acute.

10. F. *elátior*, Linn. (*tall Fescue-grass*); panicle patent very much branched, spikelets ovato-lanceolate many-flowered, florets cylindrical subaristate, leaves linear-lanceolate, root creeping. *E. Bot. t.* 1593. *E. Fl. v. i. p.* 148.—*Schedonorus, Lindl.*

Moist meadows, banks of rivers, &c.; not common. *Fl.* June, July. ♃.

40. Brómus. *Linn.* Brome-grass.

1. B. *gigánteus*, Vill. (*tall Brome-grass*); panicle branched drooping towards one side, spikelets lanceolate compressed, florets shorter than the awn, leaves linear-lanceolate ribbed. *Linn.*—*Festuca gigantea, E. Bot. t.* 1820. *E. Fl. v. i. p.* 144.—*β. triflora*; panicle more erect slenderer with 3 flowers, leaves narrower. *E. Fl. v. i. p.* 144.—*Festuca triflora, E. Bot. t.* 1918.—*Bromus trifl. Linn.*

Shady woods and moist hedges.—*β.* In Norfolk and near Forfar in Scotland: probably not unfrequent. *Fl.* July, Aug. ♃.—A sea-grass, 3—4 feet high, with broad *leaves*, having the habit and essential character of *Bromus*, but sometimes arranged by authors with *Festuca*. *Panicle* large. *Spikelets* with 3—6 *florets*. *Cal. valves* very unequal, larger ones with 3 ribs. *Outer valve* of *cor.* lanceolate, obscurely ribbed, nearly glabrous, membranous at the edge upward. *Awn* very long, inserted a little below the bifid point.

2. B. *ásper*, Linn. (*hairy Wood Brome-grass*); panicle branched drooping, spikelets linear-lanceolate compressed, florets remote subcylindrical hairy longer than the strait awn, leaves uniform the lower ones hairy. *E. Bot. t.* 1172. *E. Fl. v. i. p.* 158.

Moist woods and hedges. *Fl.* June, July. ⊙ or ♂. *Sm.* (♃. *Schrad*).—4—6 f. high: *leaves* broad.

3. B. *stérilis*, Linn. (*barren Brome-grass*); panicle drooping slightly branched, spikelets linear-lanceolate, florets remote subcylindrical scabrous shorter than the strait awn, leaves pubescent. *E. Bot. t.* 1030. *E. Fl. v. i. p.* 159.

Waste ground, fields, and hedges; common. *Fl.* June, July. ⊙.—2 f. high. Remarkable for its long, narrow, much awned and drooping *spikelets*.

4. B. *diándrus*, Curt. (*upright annual Brome-grass*); panicle erect slightly branched, spikelets linear-lanceolate, florets remote subcylindrical subscabrous about as long as the strait awn, stamens 2, (3, *Schrad.*), leaves subglabrous. *E. Bot. t.* 1006. *E. Fl. v. i. p.* 160.—*B. madritensis, Linn.*

Rare, on sandy barren wastes; principally in the south of England.—About Edinburgh, *Mr. Arnott.* *Fl.* June, July. ⊙.—One foot high. Allied to *B. sterilis;* but the *panicle* is smaller, erect or erecto-patent, often purplish.

5. B. *secalínus*, Linn. (*smooth Rye-Brome-grass*); panicle spreading, peduncles but little branched, spikelets oblongo-ovate compressed of about 10 subcylindrical glabrous rather remote florets longer than the awn. *E. Bot. t.* 1171. *E. Fl. v. i. p.* 151.

Corn-fields; not rare. *Fl.* July, Aug. ⊙.—2—3 f. high. *Leaves* somewhat hairy. *Cal.* and *ext. valve* of *cor.* broadly ovate; *int.* valve bifid at the point, the margin strongly ciliated. When the seeds ripen, the upper spikelets are pendulous, and the florets exhibit more evidently their distant mode of insertion.

6. B. *velutínus*, Schrad. (*downy Rye-Brome-grass*); "panicle spreading scarcely subdivided, spikelets ovato-oblong of 10—15 crowded elliptical downy florets, awns as long as the glumes, leaves slightly hairy." *Sm. E. Fl. v. i. p.* 152.—*B. multiflorus*, *E. Bot. t.* 1884.

Corn-fields, rare. About Edinburgh, *Sm.* *Fl.* June, July. ⊙.—Allied to *B. secalinus;* but the *awns* are longer (at length patent, *Schrad.*), and the *glumes* are pubescent: circumstances too liable to vary.

7. B. *móllis*, Linn. (*soft Brome-grass*); panicle erect close compound, spikelets ovate subcompressed, florets imbricated compressed pubescent, awn strait about as long as the glume, leaves very soft pubescent. *E. Bot. t.* 1078. *E. Fl. v. i. p.* 153.

Meadows, pastures, banks, road-sides, fields, &c. every where. *Fl.* June. ♂.—1—2 f. high. *Panicle* 2—3 inches long. *Spikelets* standing nearly erect. *Florets* 5—10. *Ext. valve* of the *cor.* convex; by no means forming such cylindrical florets as in the two last species.

8. B. *racemósus*, Linn. (*smooth Brome-grass*); panicle erect, peduncles simple, spikelets ovate subcompressed glabrous, florets imbricated compressed, awn strait about as long as the glume, leaves slightly hairy. *E. Bot. t.* 1079. *E. Fl. v. i. p.* 154.—*B. pratensis*, *E. Bot. t.* 920.

Meadows and pastures. *Fl.* June, July. ⊙. (♂. *Schrad.*).—I fear scarcely different from the preceding, except in being more glabrous.

9. B. *squarrósus*, Linn. (*Corn Brome-grass*); panicle drooping, peduncles simple, spikelets ovato-lanceolate subcompressed, florets nearly glabrous imbricated compressed, awn divaricating, leaves pubescent. *E. Bot. t.* 1885. *E. Fl. v. i. p.* 155.

Corn-fields, not indigenous. In Somersetshire and Sussex. In Scotland; *G. Don.* *Fl.* June, July. ⊙.—A most distinct species, remarkable for its spreading *awns.*

10. B. *arvénsis*, Linn. (*taper Field Brome-grass*); panicle spreading (at length drooping), peduncles branched, spikelets lanceolate compressed, florets imbricated compressed glabrous,

about as long as the strait awn, leaves hairy. *E. Bot. t.* 1984. *E. Fl. v. i. p.* 156.

Corn-fields, rare. *Fl.* June, July. ⊙.—2—3 f. high. Distinguished by its rather large, but slender and at length drooping *panicle*, and *spikelets* which have mostly a purplish tinge.

11. B. *eréctus*, Huds. (*upright Brome-grass*); panicle erect, spikelets linear-lanceolate compressed, florets subcylindrical remote glabrous longer than the strait awn, root-leaves very narrow ciliated. *E. Bot. t.* 471. *E. Fl. v. i. p.* 157.

In fields and by road-sides, especially in a sandy soil over chalk. In the King's Park, Edinburgh, *Mr. G. Anderson*. *Fl.* July. ♃.—2—3 f. high. This is truly perennial, which does not appear to be the case with any other *Bromus*. Its habit is that of *Brachypodium sylvaticum*. The *root-leaves* narrow; *spikelets* erect.

41. Avéna. *Linn.* Oat, or Oat-grass.

1. A. *fátua*, Linn. (*wild Oat*); panicle erect, spikelets drooping of about 3 scabrous florets smaller than the calyx villous below, all awned, root fibrous. *E. Bot. t.* 2221. *E. Fl. v. i. p.* 162.

Corn-fields, frequent. *Fl.* June—Aug. ⊙.—2—3 f. high. *Leaves* linear-lanceolate. *Cal. valves* large, membranous, ovato-lanceolate, shining at the margins, keeled, acuminate, ribbed. *Ext. valve* of *cor.* with long fulvous hairs at its base, bifid at the point. *Awn* to each floret long and twisted, and constituting an excellent Hygrometer.—The cultivated Oat, *A. sativa*, differs from this in having one or more upper flowers imperfect and awnless, in the shorter awn and absence of hairs at the base of the florets.

2. A. *strigósa*, Schrad. (*bristle-pointed Oat*); panicle erect, branches all secund, spikelets of perfect florets each awned as long as the calyx and terminated by two bristles. *E. Bot. t.* 1266. *E. Fl. v. i. p.* 163.

Corn-fields; common both in England and Scotland. *Fl.* June, July. ⊙.—Omitted in *Fl. Scot.*, though not an uncommon plant in the country. I have gathered it in the Isle of Skye, and by Dee-side above Mar-Lodge, Aberdeenshire.

3. A. *praténsis*, Linn. (*narrow-leaved Oat-grass*); raceme erect simple, spikelets erect oblong of about 3—5 florets longer than the cal., leaves glabrous finely serrated, lower ones involute, sheaths scarcely scabrous. *E. Bot. t.* 1204. *E. Fl. v. i. p.* 164.

Dry pastures, heathy and mountainous places. *Fl.* July. ♃.—*Leaves* short, finely serrated with minute cartilaginous teeth at the margins, the lower ones involute.

4. A. *alpína*, Sm. (*great alpine Oat-grass*); raceme slightly compound, spikelets erect oblong of about 5—6 florets longer than the cal., leaves glabrous linear acuminated flat minutely serrated, sheaths rounded subscabrous, culm cylindrical. *Sm. in Linn.*

Trans. v. x. p. 335. *E. Fl. v. i. p.* 165.—*A. planiculmis, E. Bot. t.* 2141. *Hook. Scot. i. p.* 43, (*not of Schrad.*).

Rocky places on mountains. *Fl.* June, July. ♃.—This, it must be allowed, comes very near the last species, and is principally distinguished by its stouter habit, slightly compound *raceme*, and especially by the broader flat *leaves*.

5. A. *planiculmis*, Schrad. (*flat-stemmed Oat-grass*); panicle erect compound, spikelets erect linear-oblong of 5—7 florets much longer than the calyx, leaves scabrous broadly linear suddenly acute minutely serrated, sheaths flat sharply carinated scabrous, lower part of the culm slightly compressed two-edged. *Schrad. Fl. Germ. v. i. p.* 381. *t.* 6. *f.* 2, (*not of E. Bot. nor of Hook. Scot.*)

Glen Sannox, on the ascent of Goat-fell from Loch Rannoch, Isle of Arran, Scotland; *Mr. Stuart Murray*. *Fl.* July. ♃.—Mr. Murray had the good fortune to discover this interesting grass in 1826, and has since cultivated it in the Glasgow Botanic Garden, where it preserves all its characters, of which none are so striking as the flat, sharply carinated sheaths and the great breadth of its leaves; in cultivated specimen, (where the plant is nearly 3 feet high,) equalling ½ an inch in breadth. They are, too, almost equal in width throughout; at the extremity suddenly coming to a sharp point. *Panicle* with many, but short branches. *Spikelets* much longer and larger than in *A. alpina*. *Florets* smaller.

6. A. *pubéscens*, Linn. (*downy Oat-grass*); panicle erect nearly simple, spikelets erect of about 3 florets, a little longer than the cal., outer valves of cor. jagged, leaves plane downy edges smooth. *E. Bot. t.* 1640. *E. Fl. v. i. p.* 164.—*Trisetum pub., Pers. Lindl.*

Dry pastures, especially in chalky or limestone countries. *Fl.* June, July. ♃.—Nothing, as it appears to me, can be more unnatural than to place this plant in a different genus from the two preceding. In habit it partakes of the character of the larger-flowered and "field species," if I may so call them, of this Genus, (*A. fatua and strigosa,*) and of the following smaller-flowered one. *Mr. Lindley* confines the Genus *Trisetum* to *T. pubescens* and *T. flavescens*. *M. Dumortier* adds to it our *A. pratensis* and *Aira præcox*.

7. A. *flavéscens*, Linn. (*yellow Oat-grass*); panicle much branched lax, spikelets of about 3 florets equal in length to the longer of the very unequal cal. valves, outer valve of the cor. with two terminal setæ. *E. Bot. t.* 952. *E. Fl. v. i. p.* 166.

Dry meadows, and pastures, frequent. *Fl.* July. ♃.—It has the smallest flowers of all our *Oat-grasses*, and may readily be distinguished by that circumstance, by the two terminal setæ on the outer valve of the *cor.* and by the unequal *cal. valves*. Floral pedicels downy with a small tuft of hairs at the top, and there is a terminal abortive flower, reduced to a pedicellated bristle, hairy at its base.

42. Arúndo. *Linn.* Reed.

1. A. *Phragmites*, Linn. (*common Reed*); panicle spreading,

cal. valves acuminate coloured ribbed and about 5-flowered, leaves lanceolate acuminato-cuspidate. *E. Bot. t.* 401. *E. Fl. v. i. p.* 168.

Abundant in ditches, margins of lakes, rivers, &c. *Fl.* July. 4.—6 f. or more high; the tallest of our Grasses. *Panicle* large, purple-brown, at length drooping, very handsome. *Valves* of the *cal.* very unequal: *ext.* ovato-lanceolate, many-ribbed; *int.* twice its length, thin, membranous, obsoletely ribbed. As the flowers advance, the tufts of hair increase, at length becoming very silky.—This plant frequently forms patches of immense extent, called *Reed-ronds* in some parts of the east of England, which harbour many aquatic birds and the rare *Parus biarmicus*, or *bearded Titmouse*. An extensive use is made of the culms for thatching, garden-screens, for walls and floors which are afterwards covered with clay, &c. Fishing-rods, &c. are fabricated of the much stouter culms of *Arundo Donax*, a native of the south of Europe.

43. Élymus. *Linn.* Lyme-grass.

1. E. *arenárius*, Linn. (*upright Sea Lyme-grass*); spike close erect, spikelets geminate hairy, florets awnless as long as the lanceolate valves of the cal., leaves involute pungent. *E. Bot. t.* 1672. *E. Fl. v. i. p.* 177.

Sandy sea-shores, frequent. *Fl.* (rarely) July. 4.—*Root* much creeping in the loose soil; hence it becomes of great value, like the *Ammophila arenaria*, for preserving a considerable extent of our own coasts and those of Holland from the encroachments of the sea. *Culms* 3—4 f. high, glabrous. *Leaves* glaucous, pungent. *Spike* 4—6 inches long. *Spikelets* of about 3 flowers, on the rachis. *Cal. valves* 2, lanceolate, acuminate. *Valves* of the *cor.* resembling them, but the *ext.* one broader; *int.* bifid at the point, angles of the folds ciliated.—The seeds are said to be made into bread in Iceland.

2. E. *geniculátus*, Curt. (*pendulous Sea Lyme-grass*); spike lax bent downwards with one angle, spikelets geminate, cal. valves subulate glabrous longer than the florets, leaves involute pungent. *E. Bot. t.* 1586. *E. Fl. v. i. p.* 177.

Near Gravesend, in a salt-marsh: very rare. *Fl.* July. 4.—A very remarkable plant, and I believe quite distinct from the foregoing.

3. E. *europæus*, Linn. (*wood Lyme-grass*); spike erect compact glabrous, spikelets ternate 1—2-flowered, cal. valves setaceous, florets terminated by a long awn, leaves flat. *E. Bot. t.* 1317. *E. Fl. v. i. p.* 178.

Woods and thickets, especially in a chalky soil: apparently not rare in the midland and northern parts of England, but unknown to Scotland. *Fl.* June. 4.—It would appear to me much more natural to unite this with *Hordeum*, as Hudson has done. My specimens have the calyx mostly one-flowered, and I do not see how it differs from those *Hordea* which have their *lateral* flower *fertile*. In habit too it quite accords, as well as in the long awns and subulate cal. valves.

44. Hórdeum. *Linn.* Barley.

1. H. *murínum*, Linn. (*Wall Barley*); cal. valves of the inter-

mediate floret linear-lanceolate ciliated, those of the lateral florets setaceous scabrous. *E. Bot. t.* 1971. *E. Fl. v. i. p.* 179.

Waste ground, by walls and road-sides: common in England, rare in Scotland. About Edinburgh; and at Elgin, *Rev. G. Gordon,* which is its most northerly range. *Fl.* June, July. ⊙.

2. H. *praténse,* Huds. (*Meadow Barley*); all the cal. valves setaceous and scabrous. *E. Bot. t.* 409. *E. Fl. v. i. p.* 180.

Moist meadows and pastures in England, frequent: rare in Scotland. *Mr. Neill* finds it about Salisbury Craigs. *Fl.* July. ⊙.

3. H. *marítimum,* With. (*Sea-side Barley*); cal. valves smoothish, the interior one of the lateral florets semi-lanceolate, the rest setaceous. *E. Bot. t.* 1205. *E. Fl. v. i. p.* 180.

Light dry pastures and sandy ground near the sea, not rare in England. In Scotland it has only been found in Angus-shire by *Mr. G. Don. Fl.* July. ⊙.—All our British species of this genus are admirably characterized by the form, &c. of their *cal. valves.* The present is the smallest species, procumbent at the base and more glaucous than the rest.

45. Tríticum. *Linn.* Wheat or Wheat-grass.

* *Spikelets distichous.*

1. T. *canínum,* Huds. (*fibrous-rooted Wheat-grass*); cal. valves awned with 3—5 ribs and about 5 awned florets, leaves plane, root fibrous. *E. Bot. t.* 1327. *E. Fl. v. i. p.* 184.—*Elymus can. Linn.*

Woods and banks, frequent. *Fl.* July. 4.—Best distinguished from the following by its fibrous root.

2. T. *répens,* Linn. (*creeping Wheat-grass, or Couch-grass*); cal. valves many-ribbed with from 4—8 awned (rarely awnless) florets, leaves plane, root creeping. *E. Bot. t.* 909. *E. Fl. v. i. p.* 182.

Fields and waste places, every where. *Fl.* throughout the summer months. 4.—In habit between the preceding and the foregoing, having a glaucous tint when growing near the sea. *Leaves* plane, or nearly so. *Spikelets* smaller and less compressed than in *T. junceum. Cal.* and *ext. valves* of the *cor.* with from 5—9 nerves, acute or terminated by an awn of greater or less length.—Pest of the corn-fields, and difficult to be extirpated on account of its long creeping roots. *Mr. Wilson* finds it viviparous, in which state it is mentioned by *Dumortier.*

3. T. *júnceum,* Linn. (*rushy Sea Wheat-grass*); valves of the cal. obtuse much ribbed with 4—5 awnless florets, leaves involute pungent, root creeping. *E. Bot. t.* 814. *E. Fl. v. i. p.* 182.

Sandy sea-shores, frequent. *Fl.* July. 4.—Whole plant glaucous, rigid, 1½—3 f. high. *Spike* long. *Spikelets* oblong, much compressed, distant, sessile. *Cal. valves* oblongo-lanceolate, often with 3 teeth at the point. *Ext. valves* of the *cor.* similar, with 5 nerves.

4. T. *cristátum,* Schreb. (*crested Wheat-grass*); valves of the cal. subulate keeled awned scarcely nerved with about 4 awned florets, spikelets much crowded. *E. Bot. t.* 2267. *E. Fl. v. i. p.* 184.

Sea-side between Arbroath and Montrose (*G. Don*); where, however, I should fear it cannot be considered wild. It is a native of the south-eastern parts of Europe. *Fl.* July. ♃.

** *Spikelets secund.*

5. T. *loliáceum*, Sm. (*dwarf Sea-Wheat Grass*); valves of the cal. indistinctly 3-nerved obtuse of many awnless florets, root fibrous annual. *E. Bot. t.* 221. *E. Fl. v. i. p.* 186.—*Catopodium*, *Link*, *Lindl.*

Sandy sea-shores of Norfolk, Suffolk, and Essex. North Wales and Isle of Man, *Mr. Wilson*. East coast of Scotland, not unfrequent. *Fl.* June, July. ⊙.—Singularly stiff and wiry, as much so as *Poa rigida*, which it greatly resembles; branching from the very base, 3—4 inches high. *Leaves* linear, rigid, plane. *Spikelets* more or less distant, secund, lower ones sometimes compound. *Ext. valve* of the *cor.* broadly ovate, concave.

46. Brachypódium. *Beauv.* False Brome-grass.

1. B. *sylváticum*, Beauv. (*slender false Brome-grass*); spike drooping, spikelets nearly cylindrical secund hairy, awns longer than the florets. *Lindl. Syn. p.* 297.—*Festuca sylv.*, *E. Fl. v. i. p.* 149.—*Bromus sylv.*, *Poll.*—*E. Bot. t.* 729.

Woods and hedges, not frequent either in Scotland or England. *Fl.* July. ♃.—2 f. high. *Leaves* broadly linear-lanceolate, very hairy. *Cal. valves* unequal, lanceolato-acuminate, much nerved. *Ext. valve* of cor. linear-lanceolate, much nerved, scabrous, rarely hairy; *int.* one truncate, margins ciliated.

2. B. *pinnátum*, Beauv. (*Heath false Brome-grass*); spike erect, spikelets nearly cylindrical distichous hairy, awns shorter than the florets. *Lindl. Syn. p.* 297.—*Festuca pinn.*, *E. Fl. v. i. p.* 150. *Bromus pinn.*, *Linn.*—*E. Bot. t.* 730.

Open fields and heathy places, on chalky soil; in Yorkshire, Oxfordshire, and Kent. *Fl.* July. ♃.—A very graceful plant.

47. Lólium. *Linn.* Darnel.

1. L. *perénne*, Linn. (*perennial Darnel or Rye-grass*); spikelets much longer than the cal., florets awnless linear-oblong compressed, root perennial. *E. Bot. t.* 315. *E. Fl. v. i. p.* 173.

Way-sides, pastures and waste places, frequent. *Fl.* June, July. ♃.—1—2 f. high. *Spike* with the general aspect of *Triticum repens*; sometimes, from luxuriance, compound. *Florets* linear-oblong, nerved.—A most valuable grass for the agriculturist, and frequently employed with *clover* for artificial pasture and hay.

2. L. *arvénse*, With. (*short-awned annual Darnel*); spikelets equal in length with the cal., florets with short soft (imperfect) awns, root annual. *E. Bot. t.* 1125. *E. Fl. v. i. p.* 174.

Fields, with the following, of which it is now generally thought but a *var.* *Fl.* July. ⊙.

3. L. *temuléntum*, Linn. (*bearded Darnel*); spikelets equal in length with the cal., florets as long as the rigid awns, root annual. *E. Bot. t.* 124. *E. Fl. v. i. p.* 174.

Corn-fields, not common in Scotland. *Fl.* July. ⊙.—*Mr. Wilson* finds this plant with an awn of such a dubious character, that it seems quite intermediate between the present and preceding species.

48. Rottbóllia. *Linn.* Hard-grass.

1. R. *incurváta*, Linn. (*Sea Hard-grass*); spike cylindraceo-subulate, cal. 2-valved, valves united at the base. *E. Bot. t.* 760. *E. Fl. v. i. p.* 175.—*Ophiurus, Beauv. Lindl.*—β. spike filiform nearly erect. *R. filiformis, Roth.*

Sea-shores; but not common. On the south-west and east of Scotland.—β. near Aberlady, Scotland; *G. Don.* Near Dublin, *Mr. W. Wilson. Fl.* July, Aug. ⊙.—*Plant* from 2—6 or 8 inches high, more or less curved, especially in the curious spike.

49. Knáppia. *Sm.* Knappia.

1. K. *agrostidéa*, Sm. (*early Knappia*). *E. Bot. t.* 1127. *E. Fl. v. i. p.* 84.—*Agrostis minima, Linn.—Mibora, Adans. Lindl.—Chamagrostis, Bork.—Sturmia, Hopp.*

Sandy pastures by the sea, rare. Essex, near the mouth of the Thames; Wales, and S.W. coast of Anglesea, frequent; *H. Davis. Fl.* March, April. ⊙.—A beautiful and minute grass, of which only one species is known. *Root* fibrous. *Stems* several from the same root. *Leaves* short, linear, rough, equal in length with their white, inflated *sheaths*. *Cal.* of 2, dorsally compressed, truncated, purplish *valves*. *Cor.* of 2, white, delicate, very hairy, jagged *valves*, the *outer one* much the largest and embracing the *inner*. *Styles* long, filiform, hairy. *Fruit* beautifully dotted.

50. Spartína. *Willd.* Cord-grass.

1. S. *stricta*, Sm. (*twin-spiked Cord-grass*); spikes 2—3 erect with very smooth stalks, outer valves of cal. smallest. *E. Fl. v. i. p.* 135.—*Dactylis stricta, E. Bot. t.* 389.

Muddy salt-marshes, on the east and south-east coasts of England. *Fl.* Aug. ♃.—A remarkably stiff, rigid plant, quite unlike any other native grass. *Stems* 6—8 inches, or a foot and more high. *Culms* concealed by the sheathing bases of the short pungent involute *leaves*.

51. Cýnodon. *Rich.* Dog's Tooth-grass.

1. C. *Dáctylon*, Pers. (*creeping Dog's-Tooth-grass*); spikes digitate 3—5, cor. glabrous subciliated longer than the cal., with a beardless bristle at the base of the interior valve. *Br.—E. Fl. v. i. p.* 95.—*Panicum Dactylon, Linn.—E. Bot. t.* 850.

Rare: on the sandy shores of Cornwall, near Penzance, *Rev. J. S. Tozer. Fl.* July, Aug. ♃.

52. Digitária. *Scop.* Finger-grass.

1. D. *sanguinális*, Scop. (*hairy Cock's-foot or Finger-grass*); leaves and sheaths hairy, florets oblong glabrous their margins

scabrous. *E. Fl. v. i. p.* 96.—*Panicum sanguinale, Linn.*—*E. Bot. t.* 849.

Rare in sandy cultivated fields: it formerly grew in Battersea Fields, near London. Other habitats, given in the British Floras for this plant, belong, in Mr. Borrer's opinion, to the next species. *Fl.* July, August, ⊙.—From a span to a foot high, branched at the base, erect or ascending. *Leaves* and *sheaths* hairy, the latter have small tubercles, from which the hairs spring. *Spikes* 3—5, digitated. *Spikelets* secund, 2 together, appressed to the flattened rachis. *Cal., outer valves* very small: *inner* nearly equal, plane, of which the *ext.* one is oblong, ribbed and downy or slightly scabrous at the margin; ribs glabrous.

2. D. *humifúsa*, Pers. (*glabrous Cock's-foot or Finger-grass*); leaves and sheaths glabrous, florets ovate pubescent. *Hook. in E. Bot. Suppl. t.* 2613.—*Syntherisma glabrum, Schrad. Germ. v. i. p.* 163. *t.* 3. *f.* 6.

Rare: on loose sand at Weybridge, Sussex, *Mr. Borrer;* who says that the Ipswich *D. sanguinalis* is this, and who thinks that the Norfolk and Suffolk stations, assigned to that plant in *Engl. Fl.*, probably belong to the present. Once found at Dalbeth, near Glasgow, *Mr. Hopkirk. Fl.* July, Aug. ⊙.—Generally smaller and more humifuse than the preceding, of a purpler hue. *Leaves* and *sheaths* quite glabrous. *Spikes* fewer, 2—4 in Mr. Borrer's specimens. *Florets* more ovate and more convex, outer of the two larger calycine valves purple, downy, and ribbed. *Richard* in *Pers. Syn.* appears to be the first who discriminated this as a species, and Schrader has admirably described it, and figured the flower.

TRIANDRIA—TRIGYNIA.

53. Móntia. *Linn.* Blinks.

1. M. *fontána*, Linn. (*Water Blinks or Water Chickweed.*) *E. Bot. t.* 1206. *E. Fl. v. i. p.* 187.

Rills, springy and wet places. *Fl.* June, July. ⊙.—Whole plant succulent, varying considerably in size. *Stem* prostrate and rooting. *Leaves* small, opposite, spathulate. *Peduncles* nearly terminal, often forked. *Flowers* white, at first drooping. *Stam.* upon the corolla, short. *Germen* and *capsule* roundish. *Seeds* 3, subreniform, dotted.—The *β. major* of Willd. and De Cand., (*M. repens* of Gmel. Fl. Bad.) is not uncommon in Scotland, and is found in Anglesea by *Mr. Wilson.*

54. Holósteum. *Linn.* Jagged-Chickweed.

1. H. *umbellátum*, Linn. (*umbelliferous jagged-Chickweed*); leaves elliptical ovate acute, flowers umbellate, peduncle pubescent viscid, pedicels reflexed after flowering at length erect. *E. Bot. t.* 27. *E. Fl. v. i. p.* 187.—*Cerastium umbellatum, Huds.*—*Hook. in Fl. Lond. N. Ser. t.* 13.

Rare, on old walls about Norwich and Bury. *Fl.* April. ⊙.—A singular and interesting plant, which I have incorrectly referred to *Cerastium* in Fl. Lond. It is indeed the original *Holosteum* of Linnæus, and the other species that have been arranged with it, will probably be found to belong to different genera.

55. Polycárpon. *Linn.* All-seed.

1. P. *tetraphýllum*, Linn. (*four-leaved All-seed*); triandrous, petals notched, stem-leaves in fours, those of the branches opposite. *E. Bot. t.* 1031. *E. Fl. v. i. p.* 376.

Southern coasts of England; particularly Devonshire, Dorsetshire, and Portland Island. *Fl.* summer months. ⊙.

CLASS IV. TETRANDRIA.

(4 *Stamens, equal in height.*)

ORD. I. MONOGYNIA. 1 *Style.*

* *Perianth double. Cor. monopetalous, superior.*[1] *Seed* 1.

1. Dípsacus. *Involucre* many-leaved. *Cal.* double: *ext.* very minute, forming a thickened limb to the germen; *int.* cup-shaped, entire. *Receptacle* chaffy, spinous. *Fruit* angular, with 8 pores or depressed points, crowned with the double *cal.* (*Flowers* densely capitate.)—*Nat. Ord.* Dipsaceæ, *Juss.*—Named from διψαω, *to be thirsty;* the upper connate leaves containing water in their hollows.

2. Knáutia. *Involucre* many-leaved. *Cal.* double: *ext.* minute; *int.* cup-shaped. *Fruit* compressed, with 4 pores or depressed points, upon a short stalk.—*Nat. Ord.* Dipsaceæ, *Juss.*—Named in honour of *Christopher Knaut*, a Botanist of Saxony, who flourished in the latter half of the 17th century.

3. Scabiósa. *Involucre* many-leaved. *Cal.* double: *ext.* mostly membranaceous and plaited; *int.* with about 5 bristles. *Fruit* subcylindrical, crowned with the double *cal.* (Flowers densely capitate).—*Nat. Ord.* Dipsaceæ, *Juss.*—Named from *Scabies*, the *leprosy*, the infusion or decoction of some of the species having formerly been employed in curing cutaneous diseases.

** *Perianth double. Cor. monopetalous, superior. Seeds* 2.[2] (*leaves whorled.—Rubiaceæ.*)

4. Gálium. *Cor.* rotate, 4-cleft. *Fruit* a dry, 2-lobed, indehiscent *pericarp.*—*Nat. Ord.* Rubiaceæ, *Juss.*—Named from γαλα, *milk:* the plant having been formerly employed to curdle milk.

[1] This groupe consists of plants of the *Nat. Ord.* Dipsaceæ, on which see an excellent Memoir, published by Mr. Coulter, at Geneva, 1823. The outer calyx is called by that author an *involucellum.*

[2] This little groupe belongs to the first division of the Rubiaceæ of *Juss.* Stellatæ, *Linn. Lindl.* In some of the Genera, especially *Galium*, the *cal.* forms so small a rim or margin to the germen as to be scarcely visible: the tubular part being incorporated with the germen.

5. Rúbia. *Cor.* rotate or campanulate, 3—5 cleft. *Fruit* a 2-lobed *Berry.*—*Nat. Ord.* Rubiaceæ, *Juss.*—Named from *ruber, red,* from the red dye afforded by its species, especially *Rubia tinctorum,* which produces the true *Madder* or *Turkey-red* of commerce.

6. Aspérula. *Cor.* funnel-shaped. *Fruit* without any distinct margin to the *cal.*—*Nat. Ord.* Rubiaceæ, *Juss.*—Named from *asper,* rough, owing to the roughness of some species of the genus.

7. Sherárdia. *Cor.* funnel-shaped. *Fruit* crowned with the *cal.*—*Nat. Ord.* Rubiaceæ, *Juss.*—Named in honour of *Jas. Sherard,* an English Botanist and Patron of Botany, whose fine garden at Eltham in Kent gave rise to the famous "*Hortus Elthamensis*" of Dillenius.

*** *Perianth double. Cor. monopetalous, inferior. Seeds* 2 *or many.*

8. Exácum. *Cal.* 4-cleft. *Cor.* 4-cleft, salver-shaped, marcescent, the *tube* swelling. *Anthers* opening longitudinally. *Stigma* entire. *Caps.* 1-celled, 2-valved. *Seeds* attached to 2 sutural receptacles, which at length separate with the opening of the two-valved *Caps.*—*Nat. Ord.* Gentianeæ, *Juss.*—Name, ἐξ, *out,* and ἀγω, *to conduct,* anciently applied to the *Erythræa Centaurium,* a genus allied to this, and which was supposed to have the property of ejecting poison from the stomach.

9. Plantágo. *Cor.* 4-cleft, the segments reflexed. *Stam.* very long. *Caps.* of 2 cells, 2-or many-seeded, bursting all round transversely.—*Nat. Ord.* Plantagineæ, *Juss.*—Name of doubtful origin.—All the species are mucilaginous and astringent.

10. Centúnculus. *Cor.* tubular, 4-partite. *Stam.* short. *Caps.* of 1 cell, many-seeded, bursting all round transversely.—*Nat. Ord.* Primulaceæ, *Vent.*—Name, it appears, anciently given to the *Pimpernel,* a genus allied to this; and derived, according to Théis, from *Cento,* a covering, because it was a little weed that covered the cultivated fields.

(*Some* Gentianæ. *See* Cl. V. Ord. II.)

**** *Perianth double. Cor. of* 4 *petals.*

11. Epimédium. *Cal.* of 4 leaves, caducous. *Pet.* inferior, with an inflated *nectary* on the upper side. *Pod* 1-celled, 2-valved, many-seeded.—*Nat. Ord.* Berberideæ, *Vent.*—Name of obscure origin; applied by Dioscorides to some plant which grew plentifully in Media.

12. Córnus. *Cal.* of 4 teeth. *Petals* without a nectary, superior. *Nut* of the drupe with 2 cells and 2 seeds.—*Nat. Ord.*

CAPRIFOLIACEÆ, *Juss.*—Named from *Cornu*, a *Horn;* owing to the hard nature of the wood.

(*See* Cardamine *and* Coronopus, *in* CL. XV.)

***** *Perianth single.*

13. PARIETÁRIA. *Perianth* 4-fid, inferior. *Filaments* of the *stam.* at first incurved, then expanding with elastic force. *Fruit* 1-seeded, enclosed by the enlarged perianth. (One or more of the central florets without stamens.)—*Nat. Ord.* URTICEÆ, *Juss.*—Named from *paries*, a *wall*, the species frequently growing on old walls.

14. ALCHEMÍLLA. *Perianth* inferior, 8-cleft, the 4 alternate and outer segments the smallest. *Fruit* 1-or 2-seeded, surrounded by the persistent perianth.—*Nat. Ord.* ROSACEÆ, *Juss.*—Named from the Arabic *àlkêmelyeh*, *alchemy*, from its pretended alchemical virtues.

15. ISNÁRDIA. *Cal.* 4-cleft, superior. *Petals* 4, or wanting. *Stigma* capitate. *Capsule* obovate, 4-angular, 4-valved, 4-celled, many-seeded, crowned with the *calyx.*—*Nat. Ord.* ONAGRARIÆ, *Juss.*—Named after *Antoine d'Isnard*, a Botanist and Professor at Paris, in the beginning of the last century.—As the Genus is now characterized here, and by De Candolle, it contains many species of *Ludwigia.*

16. SANGUISÓRBA. *Perianth* 4-lobed, superior, coloured, with 4 scales or bracteas at the base. *Fruit* 1-or 2-seeded, surrounded by the persistent base only of the perianth.—*Nat. Ord.* ROSACEÆ, *Juss.*—Named from *sanguis*, *blood*, and *sorbeo*, to take up or *absorb;* from the supposed vulnerary properties of the plant.

ORD. II. DIGYNIA. 2 *Styles.*

17. BUFFÓNIA. *Cal.* of 4 leaves. *Cor.* of 4 entire petals. *Caps.* flattened, 1-celled, 2-valved, 2-seeded.—*Nat. Ord.* CARYOPHYLLEÆ, *Juss.*—Name given by Sauvages in honour of the celebrated *Buffon*, "who had indeed very slender pretensions to botanical honour; a circumstance supposed to have been indicated by Linnæus in the specific name *tenuifolia.*" (*Sm.*)

(*See* Alchemilla *in* ORD. II. *Some* Gentianæ *and* Cuscuta in CL. V.)

ORD. III. TETRAGYNIA. 3 *Styles.*

18. ÍLEX. *Cal.* 4—5-toothed. *Cor.* rotate, 4—5-cleft. *Stigmas* 4, sessile. *Berry* sphærical, including 4, 1-seeded *nuts.* (Some flowers destitute of pistil).—*Nat. Ord.* CELASTRINEÆ, *Br.*—Named from *ac*, *sharp*, in Celtic, according to Théis; but this is a very forced derivation.

19. POTAMOGÉTON. *Flowers* sessile upon a *spike* or *spadix*,

which issues from a sheathing *bractea* or *spatha*. *Perianth* single, of 4 scales. *Anthers* sessile, opposite the scales of the perianth. *Pistils* 4: which become 4 small *nuts; Embryo* curved.—*Nat. Ord.* Alismaceæ, *De Cand.*—Named from ποταμος, a *river*, and γειτον, a *neighbour*. All the species grow in the water, and often present as beautiful an appearance in clear streams and ponds, as the *Fuci* do in the ocean. They protect the spawn of fish, and harbour innumerable aquatic insects, affording food by their roots and seeds to aquatic birds.—Chamisso and Schlechtendal have well illustrated this Genus; *see Linnæa, v. ii. p.* 159.

20. Rúppia. *Flowers* 2, on a *spadix* arising from the sheathing bases of the leaves, which perform the office of a *spatha*. *Perianth* 0. *Drupes* 4, pedicellate, their *nuts* one-seeded.—*Nat. Ord.* Alismaceæ, *Rich.*—Named after *Henry Bernard Ruppius*, author of *Flora Jenensis*, in 1718.

21. Sagína. *Cal.* of 4 leaves. *Petals* 4, (shorter than the calyx.) *Capsule* 1-celled, 4-valved.—*Nat. Ord.* Caryophylleæ, *Juss.*—Name, (signifying *meat which fattens*,) is little applicable to any of the minute plants belonging to this genus.

22. Mœnchia. *Cal.* of 4 leaves. *Petals* 4 (as long as the cal.). *Caps.* of one cell, opening with 8 teeth at the extremity.—*Nat. Ord.* Caryophylleæ, *Juss.*—Name given in compliment to *Conrad Mœnch*, Professor of Botany at Hesse Cassel.

23. Tillæa. *Cal.* 3—4-partite. *Pet.* 3, or 4. *Caps.* 3 or 4, two-seeded.—*Nat. Ord.* Crassulaceæ, *De Cand.*—Named after *Michael Angelo Tilli*, an Italian Botanist, who wrote in 1723 a catalogue of the plants in the Medical Garden of Pisa.

24. Radíola. *Cal.* of 4 leaves united to their middle, and mostly 3-cleft. *Petals* 4. *Caps.* of 8 cells and 8 valves.—*Nat. Ord.* Lineæ, *De Cand.*—Named from *radius*, a *ray*, I presume in consequence of the ray-like segments of the calyx.

(*See* Cerastium *tetrandrum* in Cl. X. Ord. III.)

TETRANDRIA—MONOGYNIA.

1. Dípsacus. *Linn.* Teasel.

1. D. *Fullónum*, Linn. (*Fuller's Teasel*); leaves subconnate, scales of the receptacle hooked at the extremity, involucres spreading (reflexed, *Sm.*). *E. Bot. t.* 2080. *E. Fl. v. i. p.* 192.

Waste places and hedge-banks; but rare and scarcely wild. *Fl.* July, Aug. ♂.—*Stem* 4—5 feet high, very angular and prickly. *Leaves* large, oblong, or oblongo-lanceolate, obtusely and irregularly serrated, sometimes, especially the upper ones, connate. *Involucre* spreading, about as long as the head of flowers. *Flowers* in oval heads, pale purple or whit-

ish.—Used in dressing cloth, for which purpose the hooked scales of the receptacle are admirably calculated. These hooks become obsolete by long cultivation in a poor soil, and there is every reason to believe that *D. Fullonum* is but a *var.* of *D. sylvestris.*

2. D. *sylvéstris*, Linn. (*wild Teasel*); leaves opposite rarely connate, scales of the receptacle strait at the extremity, involucres curved upward. *E. Bot. t.* 1032. *E. Fl. v. i. p.* 193.

Road-sides and hedges, not rare in England: less frequent in Scotland. Inch Colm, near Edinb., *Maughan.* River-sides, about 2 miles from Ayr, *Mr. James Wilson. Fl.* July. ♂.

3. D. *pilósus*, Linn. (*small Teasel*); leaves petiolate with a small leaflet at the base on each side, involucres shortly deflexed. *E. Bot. t.* 877. *E. Fl. v. i. p.* 193.

Moist hedges, but not common. In several places in Norfolk and Suffolk. Arundel Castle, Sussex; *Mr. Borrer.* Guildford, Surrey; *J. S. Mill, Esq.* Rare in Scotland; *Lightfoot. Fl.* Aug. Sept. ♂.—*Stem* slender, 2—4 f. high, angular, rough with short reflexed prickles, which are longer and resembling bristles on the peduncles. *Leaves* ovato-acuminate, serrated, eared at the base. *Heads* of flowers rather small, round, hairy. *Scales* straight; *blossoms* white. *Anthers* white, much protruded. *Fruit* 4-sided, with 2 depressed dots, according to Mr. Coulter, on each face in the upper part.

2. Knáutia. *Linn.* Knautia.

1. K. *arvénsis*, Coult. (*Field Knautia*); heads of many flowers, outer calyx with very minute teeth, inner with 8—16 somewhat awned cilia. *Coult.—Scabiosa arvensis, Linn.—E. Bot. t.* 659. *E. Fl. v. i. p.* 195.

Pastures and corn-fields, frequent. *Fl.* July. ♃.—2—3 f. high. Radical *leaves* lanceolate, slightly serrate, hairy. Heads of *flowers* large, convex, lilac-purple: *outer florets* large, with their segments unequal, the lower ones very large, and forming a sort of ray around the head; *inner florets* with equal segments.

3. Scabiósa. *Linn.* Scabious.

1. S. *succísa*, Linn. (*Devil's-bit Scabious*); corollas 4-cleft their segments equal, cauline leaves dentate, heads of flowers nearly globose. *E. Bot. t.* 878. *E. Fl. v. i. p.* 194.

Meadows and pastures, common. *Fl.* July, Aug. ♃.—*Root* as it were cut off abruptly, or bitten, (*radix præmorsa*). *Stems* nearly simple. *Leaves* hairy, rather stiff; *radical ones* ovate, mostly petiolate, those of the stem oblong. *Flowers* purplish-blue.

2. S *columbária*, Linn. (*small Scabious*); corollas 5-cleft radiating, stem hairy, radical leaves oblongo-ovate crenate or lyrate, those of the stem pinnatifid with linear segments. *E. Bot. t.* 1311. *E. Fl. v. i. p.* 195.

Pastures and waste places, most abundant in chalk countries: rare in Scotland; near Arbroath, Ayrshire, with white fl.; *G. Don.* Plen-

tiful near Montrose, and at Blackford; *Mr. Murray. Fl.* July, Aug. ♃. Scarcely a foot high, hairy. Lower *leaves* on rather long *footstalks;* cauline ones cut into narrow, linear or setaceous pinnæ. *Flowers* purplish-blue. *Involucre* of narrow leaves, longer than the flowers. *Inner cal.* with 5 bristles.

4. Gálium. *Linn.* Bed-straw.

* *Fruit glabrous. Flowers yellow.*

1. G. *vérum*, Linn. (*yellow Bed-straw*); leaves about 8 in a whorl linear grooved above, flowers in dense panicles. *E. Bot. t.* 660. *E. Fl. v. i. p.* 208.

Dry banks, sandy places and sea-shores, common. *Fl.* July, Aug. ♃.—Readily distinguished by its yellow *flowers*, and linear, deflexed *leaves.* Gerard tells us that the milk of the best Cheshire cheeses used to be coagulated with this plant. According to Lightfoot the Highlanders employ the roots,[1] and principally the bark of them, to dye red; boiling them with the yarn and adding alum to fix the colour. In the Isle of Coll, one of the Hebrides, these roots are taken up in such quantities as by frequent digging to injure materially the plants of *Triticum junceum*, *Carex arenaria*, &c. among which they grow, and which are so useful in binding the sand of the shores, (*Maculloch*). The Highlanders employ the plant also as a Rennet to curdle milk, combined with the leaves of the stinging Nettle (*Urtica dioica*) and a little salt.

2. G. *cruciátum*, Linn. (*Crosswort Bed-straw, Mug-wort*); leaves 4 in a whorl ovate hairy, flowers polygamous clustered lateral, peduncles 2-leaved. *E. Bot. t.* 143. *E. Fl. v. i. p.* 199.

Hedge-banks and thickets, common. *Fl.* May, June. ♃.

** *Fruit glabrous. Flowers white.*

3. G. *palústre*, Linn. (*white Water Bed-straw*); leaves 4—6 in a whorl oblongo-lanceolate obtuse tapering at the base, and as well as the lax spreading branched stem, more or less rough. *Hook. Scot. i. p.* 51.—α. stem and leaves smoothish. *G. palustre*, *E. Bot. t.* 1857. *E. Fl. v. i. p.* 199.—β. nerves at the back and margins of the leaves, and angles of the stem, distinctly rough with mostly reflexed prickles. *G. Witheringii*, *E. Bot. t.* 2206. *E. Fl. v. i. p.* 200.

Sides of ditches, lakes and rivulets. *Fl.* July. ♃.—" The transition from the smooth to the rough state of this plant may be observed on the borders of pools, and it is only in very wet situations that it corresponds with the description in *E. Fl.* of *G. palustre.* In dry situations, especially by road-sides (in Wales) where the earth has been recently disturbed (in the neighbourhood of marshes) it assumes the state of *G. Witheringii*, but is very luxuriant and branched. In marshes, not liable to be overflowed, and in boggy ground, it is in every respect like that described in *E. Fl.* under *G. Witheringii.*" *Wilson MSS.* The plant turns blackish in drying: and the upper leaves are generally unequal in size.

[1] Curtis says these roots yield a better red than madder. The plant should be cultivated, and perhaps others of this natural groupe, all allied to the true *madder*, and the dyeing qualities of the roots correctly ascertained.

4. G. *uliginósum*, Linn. (*rough Marsh Bed-straw*); leaves 6 in a whorl lanceolate mucronate their margins and the stem rough with reflexed prickles. *E. Bot. t.* 1972. *E. Fl. v. i. p.* 201.

Wet meadows and sides of ditches. *Fl.* Aug. 4.—Distinguished by the lanceolate *leaves*, tapering at the base and shortly acuminated at their points into a mucro. *Bristles* on the plant all reflexed.

5. G. *saxátile*. Linn. (*smooth Heath Bed-straw*); leaves 6 in a whorl obovate mucronate, stem very much branched prostrate smooth. *E. Bot. t.* 815. *E. Fl. v. i. p.* 201.

Heathy spots and hilly and mountainous pastures, abundant: in some places the ground being almost white with it during summer. *Fl.* June, Aug. 4.—*Plant* small, turning almost black in drying. *Leaves* often rough at the margins, of a thickish and rather soft texture. *Fruit*, as Sir J. E. Smith well observes, becoming reddish after the corollas fall, and then, when fertile, minutely granulated on the surface.

6. G. *eréctum*, Huds. (*upright Bed-straw*); leaves about 8 in a whorl lanceolate mucronate their margins rough with prickles pointing forward, panicle much branched, stem glabrous flaccid, segments of the corolla mucronato-acuminate. *E. Bot. t.* 2067. *E. Fl. v. i. p.* 202.—β. leaves downy on the underside.

Hedges and pastures, not common. In Norfolk: at Portslade, Sussex, and near Cambridge, *Borrer*. Portobello, near Edinburgh; *Maughan*.—β. near Plymouth; *Mr. G. Banks*. *Fl.* June, July. 4.—"Differs from *G. uliginosum* by the edges and adjoining portion of the disk of the leaves above, bearing a double row of hooked prickles all pointing forward, in its larger size, stouter habit, glaucous hue, and larger, less obovate, *leaves*. The *flowers* are larger, far more numerous and crowded into dense, terminal, compound *panicles*; each segment of the corolla tipped with an awn-like point." *Sm.* in *E. Fl.*—Scarcely any genus requires illustration more than *Galium*. The present species is by Sprengel considered the same as *G. lucidum* of *Allioni*, and *G. rigidum*, *Vill.* Roemer and Schultes, again, pronounce it *G. provinciale*, *Lam.*—Prof. Mertens refers it with certainty, upon the authority of a specimen received from Mr. Turner, to *G. lucidum*. Mr. Banks has sent me specimens, agreeing in every particular with the *E. Bot.* plant: except that the leaves are all minutely, but distinctly and thickly, downy on the underside.

7. G. *cinéreum*, All. (*grey spreading Bed-straw*); "leaves 6—8 in a whorl linear bristle-pointed with marginal prickles all pointing forward, stem weak much branched, fruit smooth, corolla tapering." *Sm.*—*E. Fl. v. i. p.* 203.—*G. diffusum*, *Don in Hook. Scot. i. p.* 52, (according to Smith.)

Banks of the river Leith near Slateford, 3 m. from Edinburgh, *Don*; and near Kinnaird, Angus-shire. (*v. Fl. Scot.*), *G. Don*. *Fl.* Aug. 4.—Of this I know nothing but from the notes of Mr. G. Don, which I published in *Fl. Scot.* and from the description of Smith, who says that it comes very near *G. erectum*, and that experience must prove how far its differences are constant.

8. G. *aristátum*, Linn. (*bearded Bed-straw*); "leaves 6 in a whorl stalked lanceolate flat reticulated with veins bristle-pointed with minute marginal prickles pointing forward, stem much branched spreading smooth, seeds smooth kidney-shaped separated, corolla taper-pointed." *Sm.—E. Fl. v. i. p.* 204.

In Angus-shire, but not common; *G. Don. Fl.* July, Aug. ♃.

9. G. *Mollúgo*, Linn. (*great Hedge Bed-straw*); leaves 8 in a whorl elliptical mucronate rough at the margin, flowers in loose spreading panicles, segments of the corolla mucronate. *E. Bot. t.* 1673. *E. Fl. v. i. p.* 208.

Hedges and thickets; less frequent in Scotland. *Fl.* July, Aug. ♃.—*Stems* very long and straggling. *Prickles* on the margins of the *leaves* pointing forward.

10. G. *pusíllum*, Linn. (*least Mountain Bed-straw*); "leaves 8 in a whorl linear-lanceolate hair-pointed entire somewhat hairy, panicles terminal forked, fruit very smooth." *Sm.—E. Bot. t.* 74. *E. Fl. v. i. p.* 206.

Limestone hills, near Kendal and about Matlock, Derbyshire: and near the lake of Killarney, Ireland.—Pentland and Strathblanehills and lower rocks of Clova in Scotland; *G. and D. Don. Fl.* July, Aug. ♃. —I have never been so fortunate as to see this plant in a good state, and foreign authors seem to be little, if at all, acquainted with it.

11. G. *parisiénse*, Linn. (*Wall Bed-straw*); leaves about 6 in a whorl lanceolate mucronate rough at the margins, peduncles axillary their branches divaricated slender subtrichotomous, stems slender rough.—*G. gracile, Mertens and Koch.*—*α.* fruit hispid. *G. parisiense, Linn.—G. litigiosum, De Cand. Ic. Pl. Gall. p.* 8. *t.* 26.—*G. gracile, Wallr.—G. gracile α. Mert. and Koch.*—*β.* fruit glabrous, slightly tuberculated. *G. parisiense, Tenore.—G. anglicum, Huds. E. Bot. t.* 384. *E. Fl. v. i. p.* 209.—*G. gracile, β. Mertens and Koch.*

β. Walls and dry sandy soils, but rare: in Kent and various parts of the east and south-east of England, especially on old walls. *Fl.* June, ⊙.—On comparing this with the *G. parisiense* of continental authors. I think it will appear evident that it is but a glabrous-fruited *var.*, such as is also found on the continent. The *G. parisiense* of Tenore, for example, has the fruit quite glabrous.

12. G. *saccharátum*, All. (*warty-fruited Bed-straw*); leaves 6 in a whorl lanceolate their margins rough with prickles pointing forward, peduncles axillary 3-flowered, fruit reflexed warted.—*G. verrucosum, E. Bot. t.* 2173. *E. Fl. v. i. p.* 204.—*Valantia Aparine, Linn.*

Corn-fields, rare. Discovered by *Mr. G. Don* in corn-fields in the Carse of Gowrie, Scotland. Near Malton, Yorkshire; *Mr. R. Miller. Fl.* June—Aug. ⊙.—*Prickles* of the *stem* reflexed. The 2 lateral flowers on each peduncle, are sterile, and fall away, one from each side of

the large warted *fruit*, which, together with the marginal prickles of the leaves pointing forwards, essentially distinguish this from *G. tricorne*.

13. G. *tricórne*, With. (*rough-fruited Corn Bed-straw*); leaves about 8 in a whorl lanceolate their margins midrib and angles of the stems rough with reflexed prickles, peduncles axillary 3-flowered, fruit reflexed granulated. *E. Bot. t.* 1641. *E. Fl. v. i. p.* 206.

Dry chalky fields, in England: Isle of Thanet, in Surry and near Stamford, Lincolnshire. In Oxfordshire, Yorkshire, Gloucestershire, Norfolk, Suffolk (*Rev. G. R. Leathes in Herb. nostr.*) and the Isle of Wight. *Fl.* July. ⊙.

14. G. *spúrium*, Linn. (*smooth-fruited Corn Bed-straw*); leaves about 8 in a whorl their margins as well as the stem rough with reflexed prickles, peduncles axillary many-flowered, fruit smooth spreading. *E. Bot. t.* 1871. *E. Fl. v. i. p.* 206.

Corn-fields near Forfar, rare; *G. Don. Fl.* July. ⊙.—Allied to the 2 last species in its short axillary *peduncles:* but in general habit coming so near *G. Aparine*, that except by the glabrous *fruit*, it is scarcely to be distinguished from it. Sprengel asserts them to be the same.

*** *Fruit hispid. Flowers white.*

15. G. *boreále*, Linn. (*cross-leaved Bed-straw*); leaves 4 in a whorl lanceolate 3-nerved glabrous, stems erect, fruit muricated. *E. Bot. t.* 105. *E. Fl. v. i. p.* 209.

Moist rocks, frequent in the north of England, Wales, and Ireland. *Fl.* June, July. 4.—In very shaded places and clefts of rocks, the *stems* are long, and straggling. *Flowers* numerous, crowded, white. *Bristles* of the *fruit* hooked.

16. G. *Aparíne*, Linn. (*Goose-grass or Cleavers*); leaves 6—8 in a whorl lanceolate hispid their margins midrib and angles of the stem very rough with reflexed bristles, peduncles axillary, stem weak, fruit hispid. *E. Bot. t.* 816. *E. Fl. v. i. p.* 210.

Hedges, abundant. *Fl.* June, July. ⊙.—Habit of spec. 12, 13, 14; and, like them, annual. *Plant* straggling among bushes. *Flowers* few, 2 or 3 together, on short, simple *footstalks*, arising from the axils of the leaves. *Bristles* of the *fruit* hooked, which by their means catches hold of the coats of animals, and is widely dispersed. The *seeds* have been recommended as a substitute for *coffee*.

5. Rúbia. *Linn.* Madder.

1. R. *peregrína*, Linn. (*wild Madder*), leaves 4—6 in a whorl lanceolate persistent glossy the margin and keel rough with reflexed prickles, flowers 5-cleft. *E. Bot. t.* 851. *E. Fl. v. i. p.* 211.

Stony and sandy ground, in the south-west of England. Anglesea, *Mr. Wilson*. Surely *Dr. Mitchell*, in *Linn. Corresp. v. ii. p.* 449, must be mistaken in saying that this is "*plentiful all over the sandy islands of the west of Scotland.*" *See E. Fl. v. i. p.* 211. *Fl.* June—Aug. 4.—Very nearly allied to *R. tinctorum;* from which, according to De Candolle, it is distinguished by its "firmer and harsher texture, its persistent *leaves*, its larger *flower*, always 5-cleft, with the lobes of the *corolla* broad

and oval at their base, suddenly contracted into an acerose point." Again, Mr. Wilson justly remarks that the *corolla* is rather rotate than campanulate, (or funnel-shaped, as in *R. tinctorum*); the segments, after the escape of the pollen, spreading, with convex surfaces, concave in the newly-opened flowers.

6. Aspérula. *Linn.* Woodruff.

1. A. *odoráta*, Linn. (*sweet Woodruff*); leaves about 8 in a whorl lanceolate, flowers panicled on long stalks. *E. Bot. t.* 755. *E. Fl. v. i. p.* 196.

Woods and shady places, plentiful. *Fl.* May, June. 4.—About 6 inches high, erect. *Flowers* white. Whole plant very fragrant, like *Anthoxanthum*, especially when in the act of drying.

2. A. *Cynánchica*, Linn. (*Small Woodruff, Squinancy-wort*); leaves linear 4 in a whorl, upper whorls with 2 opposite leaves reduced to stipules. *E. Bot. t.* 33. *E. Fl. v. i. p.* 198.

Warm banks, especially in chalky countries. Not found in Scotland or Wales. *Fl.* June, July. 4.—*Flowers* generally lilac. One pair, in the whorl of the uppermost leaves, is reduced to small lanceolate *stipules*; exhibiting beautifully the real character of the stipules of the *Rubiaceæ* in general, of which the *Stellatæ* are considered by most authors to constitute a groupe.

3. A. *arvénsis*, Linn. (*Field Woodruff*); annual, leaves 6—10 in a whorl linear-lanceolate obtuse, flowers aggregate terminal surrounded by long ciliated bracteæ, fruit glabrous. *Banks, in Plym. and Davenp. Fl. ined.—Lob. Ic. t.* 801. *f.* 2.

Near Davenport, *Mr. Banks.* ⊙.—Specimens of this plant have recently been communicated to me, by Mr. Banks, author of the accurate Flora above quoted, which were gathered in a situation, to all appearance wild, and where, if originally introduced from the opposite continent, they may assuredly be considered naturalized. By Römer and Schultes this is given as a native of all Europe, except Britain. The *root* is annual, and the *flowers* bright blue: the *fruit* large and very conspicuous.

7. Sherárdia. *Linn.* Sherardia or Field-Madder.

1. S. *arvénsis*, Linn. (*blue Sherardia*); leaves about 6 in a whorl, flowers terminal sessile capitate. *E. Bot. t.* 891. *E. Fl. v. i. p.* 196.

Corn-fields, especially in a light gravelly soil, frequent. *Fl.* June—Aug. ⊙.—A small, slender, branched and spreading plant. *Leaves* obovato-lanceolate, acute, their margins rough, upper ones 7—8, forming an involucre to a small sessile umbel of pale blue *flowers*. *Cal.* of 4 segments, two opposite ones bifid; these bifid ones correspond to the line where the fruit separates into two one-seeded portions, each of which is crowned with three teeth; one, being the single tooth or segment of the *cal.*; the other two, each half of a double one.

8. Exácum. *Linn.* Gentianella.

1. E. *filifórme*, Sm. (*least Gentianella*); leaves linear-lanceolate

sessile, stem dichotomous slender, peduncles elongated. *E. Bot. t.* 235. *E. Fl. v. i. p.* 212. *Hook. in Fl. Lond. N. Ser. t.* 86.—*Gentiana filiformis, Linn.*

Sandy turf-bogs; in the extreme south and south-west of England. In Ireland it is found near Cork, upon Dursey Island, and at Glengariff, *Mr. W. Wilson. Fl.* July. ⊙.—A small, slender and graceful plant, with yellow *flowers*, differing from *Gentiana* in the number of *stamens* and divisions to the *cal.* and *corolla.*

9. Plantágo. *Linn.* Plantain.

1. P. *májor*, Linn. (*greater Plantain*); leaves broadly ovate, mostly on longish footstalks, scape rounded, spikes long cylindrical, dissepiment of the capsule plane, each cell many-seeded. *E. Bot. t.* 1558. *E. Fl. v. i. p.* 213.

Pastures and road-sides, frequent. *Fl.* June, July. 4.—*Leaves* all radical, more or less spreading, with 7 nerves, entire or toothed, glabrous or pubescent. *Petioles* varying in length, sometimes as long as the leaf, ribbed. *Spike* dense. At the base of each flower is a concave *bractea. Cal.* of 4, minute *leaflets. Caps.* ovate, 6 or 8 *seeds* in each cell.—*Spike* sometimes leafy, with the leaves disposed in a pyramidal form. *Hopk.*

2. P. *média*, Linn. (*hoary Plantain*); leaves ovate sessile or tapering into short and broad footstalks, scape rounded, spike cylindrical, dissepiment of the capsule plane, each cell 1-seeded. *E. Bot. t.* 1559. *E. Fl. v. i. p.* 214.

Meadows and pastures, less frequent in Scotland. *Fl.* June, July. 4. —*Stamens* long, with dark purple filaments. *Spike* shorter than in *P. major*, and more silvery from the shining scariose corollas: but a more essential difference is in the *cells* of the *capsule*, which are but 1-seeded.

3. P. *lanceoláta*, Linn. (*Ribwort Plantain*); leaves lanceolate, scape angular, spike ovate, dissepiment of the capsule plane, each cell 1-seeded. *E. Bot. t.* 175. *E. Fl. v. i. p.* 214.

Meadows and pastures, often too abundant. *Fl.* June, July. 4.—The *leaves* and *scape* are observed by Mr. S. Murray to yield strong fibres. The spike has the bracteas sometimes, by luxuriance, converted into leaves; and sometimes a new scape and spike grow out horizontally from among the bracteas. Lightfoot mentions a *var.* with globular heads: this is probably the same as I have found at a considerable elevation upon the mountains of Scotland, with short *leaves;* long and slender *scapes*, hairy and scarcely angular; with small dark brown almost globular *heads;* the *bracteas* more or less hairy. This is scarcely different from the *P. montana* of authors, *P. quinquenervia* of Schleicher's Catalogue.

4. P. *marítima*, Linn. (*Sea-side Plantain*); leaves linear grooved fleshy woolly at their base, scape rounded, spike cylindrical, dissepiment of the capsule plane, each cell 1-seeded. *E. Bot. t.* 175. *E. Fl. v. i. p.* 215.—β. *major;* leaves almost plane inclining to lanceolate toothed glabrous, scape densely hairy.—γ. *minor;* leaves linear-lanceolate densely hairy as well as the scape.

Grassy pastures by the sea-side; frequent near the margin of fresh water lakes and on the *bases* of mountains sloping down to them, as by Loch-Lomond, and on the *summits* of the highest mountains.—β. On the island of Cumrae, among rocks.—γ. Among rocks by the House of Skail, Pomona, Orkney; *G. Anderson, Esq. Fl.* June—Sept. ♃.—Varying much in size and in the breadth and hairiness of its *leaves* and *scapes:* sometimes the *leaves* are almost filiform, often lanceolate; in the curious *var.* found by Mr. Anderson, they are clothed with short, dense hairs; —always very succulent.

5. P. *Corónopus*, Linn. (*Buck's-horn Plantain*); leaves linear pinnatifid, scape rounded, dissepiment of the capsule with 4 angles (thus forming 4 cells), 1 seed in each cell. *E. Bot. t.* 892. *E. Fl. v. i. p.* 216.

Gravelly sterile soils, inland and upon the coast. *Fl.* June, July. ⊙.—*Leaves* mostly spreading, very variable in size and pubescence, pinnatifid; segments often toothed or again divided. *Scape* hairy. *Spike* mostly cylindrical. In small plants growing on Staffa, I have seen specimens with the spike ovate, composed of not more than 7 or 8 flowers; whilst the leaves and scapes were quite hispid.

10. Centúnculus. *Linn.* Chaffweed.

1. C. *mínimus*, Linn. (*small Chaffweed or Bastard Pimpernel*); flowers sessile, corolla without glands at the base. *Sm.—E. Bot. t.* 531. *E. Fl. v. i. p.* 217.

Moist sandy or gravelly places, about London, in Kent, Bedfordshire, Norfolk, Suffolk, the south of Ireland, and lowlands of Scotland: not frequent; but probably often overlooked on account of its small size. *Fl.* June, July. ⊙.—*Plant* 1—2 inches high, more or less branched. *Leaves* alternate, ovate, glabrous. *Flowers* extremely minute, sessile, axillary, solitary. *Cor.* pale rose colour, withering upon the capsule.

11. Epimédium. *Linn.* Barrenwort.

1. E. *alpínum*, Linn. (*alpine Barrenwort*); root-leaves none, stem-leaf twice ternate. *E. Bot. t.* 438. *E. Fl. v. i. p.* 220.

Subalpine woods; doubtful if really a native or an outcast of gardens. Bingley woods, Yorkshire. On Carrock fell and Skiddaw, Cumberland. Near Glasgow and Edinburgh, (*Fl. Scot.*). *Fl.* May. ♃.—*Stems* several from the same root, erect, simple, bearing each a triternate *leaf:* base of the *petiole* swollen: *leaflets* heart-shaped, extremely delicate, ciliated at the margin, hairy beneath, serrated; *lateral* ones inequilateral. *Panicle* shorter than the leaf, springing from the swollen base of the petiole. *Flowers* reddish; *nectary* white, resembling an inflated membrane. *Anthers* very curious, of 2 *cells*, opening by two *valves* which spring back upwards, and suffer the pollen to escape.—Another species has been found on the North-West coast of America, having 6 stamens.

12. Córnus. *Linn.* Cornel.

1. C. *sanguínea*, Linn. (*wild Cornel or Dogwood*); arborescent,

branches strait, leaves opposite ovate green on both sides, cymes destitute of involucre. *E. Bot. t.* 249. *E. Fl. v. i. p.* 221.

Woods and thickets, particularly on a chalk or limestone soil; scarcely wild in Scotland. *Fl.* June, July. ♄.—5—6 feet high. *Bark* in the older branches dark-red, as are the *leaves* before they fall; these are strongly nerved, entire, slightly hairy beneath. *Cymes* of numerous white *flowers* at the ends of the branches.

2. C. *Suécica*, Linn. (*dwarf Cornel*); herbaceous, leaves all opposite ovate glabrous, flowers few umbellate surrounded by a 4-leaved petaloid involucre, and springing from the axil of the forked extremity of the stem. *E. Bot. t.* 310. *E. Fl. v. i. p.* 221.

Alpine pastures in Northumberland and Scotland: especially in turf bogs on the Highland mountains. *Fl.* July, Aug. ♃.—*Root* creeping. *Stems* about 6 inches high. *Umbel* terminal, from the axil of 2 young branches, which do not exceed the general flowerstalk in height, till the fruit is ripe. *Drupes* red, said by the Highlanders to create appetite, and hence called, *Lus-a-chraois*, plant of gluttony. (*Lightf.*)

13. Parietária. *Linn.* Wall-Pellitory.

1. P. *officinális*, Linn. (*common Pellitory-of-the-wall*); leaves ovato-lanceolate 3-nerved above the base, "involucre in two portions, each of about 7 segments, in each portion are 3 flowers with a fertile one between them." *Wilson.—E. Bot. t.* 597. *E. Fl. v. i. p.* 222.

Old walls and waste places, among rubbish. *Fl.* during the summer months. ♃.—*Stems* often procumbent upon the wall, reddish, pubescent. *Leaves* alternate. *Flowers* small, hairy, purplish, clustered in the axils of the leaves. "*Involucre* in 2 portions, of about 7 segments each, and between them is placed a fertile flower, whose perianth is entire, closely surrounding the pistil. In each portion of the involucre are 3 flowers apparently fertile," (*Wilson*), but of which the central one has only a pistil. The lateral ones have stamens and pistil. *Filaments* jointed, in which peculiarity exists the elastic property by which the pollen is so copiously discharged. This is remarkably the case in a hot summer's day. *Fruit* black, shining. *Pericarp* closely investing the seed. For a full account of the curious structure of the flowers of this plant, see *Flora Londinensis.*

14. Alchemílla. *Linn.* Lady's Mantle.[1]

1. A. *vulgáris*, Linn. (*common Lady's Mantle*); leaves plaited many-lobed serrated. *E. Bot. t.* 597. *E. Fl. v. i. p.* 223.—β. *minor*; leaves very pubescent. *A. hybrida, Pers.*

Alpine pastures, abundant. *Fl.* June, July. ♃.—One foot high, or more. *Radical leaves* large, on long footstalks, those of the stem with connate toothed *stipules*, upper ones sessile and very small, *lobes* 6—9.

[1] Mantle of *Our Lady* (the *Virgin Mary*), therefore not "*Ladies' Mantle*," as written by many authors.

Flowers in many rather lax, corymbose, terminal clusters, yellow-green. *Germens* 1—2. *Seeds* 1—2. *Style* lateral.

2. A. *alpina*, Linn. (*alpine Lady's Mantle*); leaves digitate serrated white and satiny beneath. *E. Bot. t.* 244. *E. Fl. v. i. p.* 224.

Mountains in the north of England, North Wales, and especially Scotland. *Fl.* July, Aug. 4.—One of the most elegant of our native plants. *Inflorescence* similar to *A. vulgaris*; but the leaves very different, and the leaflets are beautifully silky on the underside.

3. A. *arvénsis*, Sm. (*Field Lady's Mantle or Parsley Piert*); leaves trifid pubescent, lobes deeply cut, flowers sessile axillary. *E. Bot. t.* 1011. *E. Fl. v. i. p.* 224.—*A. Aphanes, Willd.*—*Aphanes arvensis, Linn.*

Fields and gravelly soils, and on wall-tops, where there is any covering of soil. *Fl.* May—July. ⊙.—*Stems* branched, leafy, 4—5 inches long, frequently prostrate. *Leaves* alternate; *stipules* large. *Stam.* varying in number. *Germens* 1 or 2.

15. Isnárdia. *Linn.* Isnardia.

1. I. *palústris*, Linn. (*Marsh Isnardia*); stem procumbent rooting glabrous, leaves opposite ovate acute stalked, flowers axillary solitary sessile apetalous. *DC.*—*E. Fl. v. iv. App. p.* 264. *Hook. in E. Bot. Suppl. t.* 2593.

Very rare. In a pool at Buxtead, Sussex; *Mr. Borrer. Fl.* July. ⊙.—A most interesting addition to our British Flora, discovered in 1827. It is frequent on the continent of Europe, in North America and the temperate parts of Asia.

16. Sanguisórba. *Linn.* Burnet.

1. S. *officinális*, Linn. (*great Burnet*); glabrous, spikes ovate, stamens about as long as the perianth. *E. Bot. t.* 1312. *E. Fl. v. i. p.* 218.

Low moist meadows and pastures, on a calcareous soil; chiefly in the north of England (*Sm.*); more rare in the lowlands of Scotland. *Fl.* June, July. 4.—1—2 f. high, branching upward. *Leaves* pinnate with a terminal *leaflet*; the rest of the leaflets opposite, all ovate, somewhat cordate at the base, glabrous, strongly serrated, petioled: at the base of each pair of petioles are two small toothed appendages in the larger leaves; these are wanting in some specimens. *Heads* of *flowers* much crowded, dark purple. *Limb* of the *perianth* in 4 ovate segments, its tube enveloping the germen and having at its base 4, ciliated *scales* or *bracteas* (*calyx* of many authors). *Seed* 1, rarely 2.—This and the preceding genus are allied to the plants in the Class *Icosandria*, (*Rosaceæ.*)

2. S. *média*, Linn. (*oblong Burnet*); spikes cylindrical. *E. Fl. v. i. p.* 219.

Pastures, in the west of Scotland; *G. Don, in E. Fl. Fl.* July. 4.—"Taller and larger than the foregoing, with a much longer and truly cylindrical *spike*, of rather pale *flowers*. Mr. Don, who sent it, had scarcely an idea of its being more than a variety." *Sm.*

TETRANDRIA—DIGYNIA.

17. Buffónia. *Sauv.* Buffonia.

1. B. *ánnua*, DC. (*annual Buffonia*); stem loosely panicled from the base, branches spreading short firm, striæ on the calyx strait parallel, capsules scarcely so long as the cal., leaves subulate spreading at the base. *DC.—B. tenuifolia*, *E. Bot. t.* 1813, (scarcely of Linn.). *E. Fl. v. i. p.* 225.

Said to have been found in Flukenet's and Dillenius' time, both about Boston in Lincolnshire, and on Hounslow Heath: but no one has seen it there since. Sir Joseph Banks was persuaded that, in Lincolnshire, the *Bupleurum tenuissimum* had been mistaken for it. *Fl.* June. ⊙. (*Sm.*)—Linnæus' *B. tenuifolia* is perennial, and is the *B. perennis* of De Cand.

TETRANDRIA—TETRAGYNIA.

18. Ílex. *Linn.* Holly.

1. I. *Aquifólium*, Linn. (*common Holly*); leaves ovate acute shining waved with spinous teeth, peduncles axillary short many-flowered, flowers subumbellate. *E. Bot. t.* 496. *E. Fl. v. i. p.* 227.

Frequent in hedges and woods, especially in a light or gravelly soil. *Fl.* May, June. ♄.—A small evergreen *tree* of great beauty, with smooth grayish *bark*. *Leaves* alternate, deep shining green, very rigid, the upper ones quite entire, the lower ones generally edged with strong sharp spines. This difference in the foliage has not escaped the notice of Poets. The *flowers* are somewhat umbellate, and spring from the axils of the leaves. *Cal.* slightly hairy, small. *Cor.* white. *Berries* bright scarlet.—Excellent for fences, as it bears clipping. The wood is hard and white and presents a beautiful surface; whence it is much employed for Turners' work, for drawing upon, for knife-handles, &c. Of the bark, bird-lime is made. With the leaves and berries our houses and churches are adorned at Christmas, a relic probably of Druidism, during the prevalence of which Dr. Chandler tells us, "houses were decked with them, that the sylvan spirits might repair thither and remain unnipped by frost and cold winds, until a milder season had renewed the foliage of their darling abodes."—Innumerable varieties of this plant are reared by gardeners, mainly depending upon the variegation of their leaves and spines, and the colour of the berries.—The *Holly* (*Creil Thionn*, in Gaelic), is the badge of the Clan *Drummond*.

19. Potamogéton. *Linn.* Pond-weed.

* *Leaves all opposite; stipules none.*

1. P. *dénsus*, Linn. (*opposite-leaved Pond-weed*); leaves all opposite amplexicaul ovato-acuminate or lanceolate. *E. Bot. t.* 397. *E. Fl. v. i. p.* 230.

Ditches, frequent. *Fl.* June, July. 4.—*Peduncles* short. *Head* of *flowers* small, rounded. *Leaves* keeled below, middle nerve or rib of many longitudinal cells, with 2 and sometimes 3 lateral parallel veins on each side, the inner one the strongest.

** *Leaves alternate, all submersed, with adnate stipules.*

2. P. *pectinátus*, Linn. (*Fennel-leaved Pond-weed*); leaves distichous setaceous single-nerved sheathing by means of their adnate stipules, spike interrupted. *E. Bot. t.* 323. *E. Fl. v. i. p.* 236. —*P. marinus, Linn.*

Rivers, lakes, and salt-water ditches. *Fl.* July. ♃.—General habit not much unlike *Ruppia maritima*. Chamisso and Schlechtendal make 2 species of this; the one having small fruit or nuts, not keeled at the back, (their *P. filiformis*): the other having large fruit, twice the size of the former and keeled at the back, (their *P. pectinatus*). I scarcely know whether these characters are sufficient to constitute species. If they are, our plants, at least all that I have seen in fruit, and there is no difference in the foliage, will belong to *P. filiformis*. The latter I possess from Gouan, marked *P. marinus*. Probably it is the one alluded to by Dillenius as having "*large heads of flowers*" when growing in salt-water, (*see E. Fl. p.* 237); and should be sought for by those who live in the neighbourhood of salt-marshes.

*** *Leaves alternate, all linear, submersed; stipules free.*

3. P. *pusíllus*, Linn. (*small Pond-weed*); leaves narrow-linear 3—5-nerved with obscure connecting veins, peduncles elongated. *E. Bot. p.* 215. *E. Fl. v. i. p.* 235.—*β. major*; stem more compressed, leaves broader, spike somewhat interrupted. *P. compressus, Linn.—E. Bot. t.* 418. *E. Fl. v. i. p.* 233.

Ditches and still waters. *Fl.* July. ♃.—The *stem* is here, as in all of this division, more or less compressed. The *leaves* are more or less acute; the *spikes* oblong, compact or a little interrupted. I quite agree with Chamisso and Schlechtendal who unite the *P. compressus* with *P. pusillus*.

4. P. *gramíneus*, Linn. (*grassy Pond-weed*); leaves broadly linear obtuse 3-nerved with few and obscure connecting veins, peduncle scarcely longer than the oblongo-oval spike. *E. Bot. t.* 2253. *E. Fl. v. i. p.* 235.—*P. obtusifolius, Mert. and Koch.—Cham. et Schlecht. in Linnæa, v. ii. p.* 178. *t.* 4. *f.* 8.

Ponds and ditches; Deptford, Norwich, Yorkshire, (*E. Fl.*) Lancashire, *Mr. Wilson*. *Fl.* July. ♃.—Nearly allied to the last, but stouter, darker-coloured and with short *peduncles*, scarcely longer than the stipule of the leaf from the axil of which they spring. The middle nerve or rib is accompanied by many parallel oblong reticulations, as is well observed by Smith.

5. P. *acutifólius*, Link, (*sharp-leaved Pond-weed*); leaves linear acuminate with 3 principal and numerous close parallel intermediate nerves occupying the whole surface, spikes oval compact about equal in length with the short peduncle. *Hook. in E. Bot. Suppl. t.* 2609.

Rare? Hitherto only found in marsh-ditches at Amberley, Henfield and Lewes, Sussex, *Mr. Borrer*. *Fl.* July. ♃.—The numerous, closely

placed, parallel nerves well distinguish this and the following species from their congeners.

6. P. *zostéræfolius*, Schum. (*Grass-wrack-like Pond-weed*); leaves broadly linear acute with 3 principal and numerous close parallel intermediate nerves occupying the whole surface, spikes cylindrical upon long peduncles. *Reichenb. Iconogr. t.* 175. *f.* 308. *Cham. et Schlecht. in Linnæa, v. ii. p.* 182. *t.* 4. *f.* 10.—*P. cuspidatus, Schrad.—E. Fl. v. i. p.* 234.

Rare? Rivulet at Hovingham, Yorkshire. *Mr. Teesdale.* Lakes of Rescobie and Forfar, *G. Don.* I have it from the latter station, gathered by *Mr. Drummond.* *Fl.* July. ♃.—Larger than the last; with *peduncles* 3—4 inches long, and *spikes* cylindrical, an inch long.

**** *Leaves alternate, ovate or lanceolate, all submersed; stipules free.*

7. P. *crispus*, Linn. (*curled Pond-weed*); leaves lanceolate waved and serrated 3-nerved, fruit beaked. *E. Bot. t.* 1012. *E. Fl. v. i. p.* 233.

Ditches and rivers, frequent. *Fl.* June, July. ♃.

8. P. *perfoliátus*, Linn. (*perfoliate Pond-weed*); leaves cordato-ovate amplexicaul 7-nerved with smaller intermediate nerves. *E. Bot. t.* 168. *E. Fl. v. i. p.* 229.

Ditches and lakes, frequent. *Fl.* July. ♃.—*Peduncles* rather short, thick. *Spikes* oblongo-ovate.

9. P. *lúcens*, Linn. (*shining Pond-weed*); leaves elliptic-lanceolate mucronate with several opposite pairs of parallel nerves springing from the midrib connected by reticulations, spikes cylindrical many-flowered. *E. Bot. t.* 376. *E. Fl. v. i. p.* 231.

Lakes, pools, and streams, abundant. *Fl.* June, July. ♃.—The largest of our species, and very beautiful in the nervation of its leaves. Chamisso and Schlechtendal include this in a division of the Genus which has sometimes floating and coriaceous leaves (*folia accessoria*), they change its name to *P. Proteus*, and consider the *P. heterophyllus* a variety of it. To me they appear distinct; but aquatic plants of all kinds are extremely liable to vary.

***** *Leaves alternate, upper ones floating, broader than the rest; stipules free.*

10. P. *heterophýllus*, Schreb. (*various-leaved Pond-weed*); "upper leaves elliptical stalked floating slightly coriaceous, lower ones lanceolate membranaceous sessile, flower-stalks swelling upwards." *E. Bot. t.* 1285. *E. Fl. v. i. p.* 229.

Pools and ditches, in various parts of the country. *Fl.* June, July. ♃.—*Mr. Wilson* finds this sometimes without floating *leaves*, when it seems intermediate between *P. lanceolatus* and *P. rufescens*.

11. P. *lanceolátus*, Sm. (*lanceolate Pond-weed*); submersed

leaves lanceolate tapering at the base membranaceous with about 5—7 nerves and transverse veins, near the middle nerve are small chain-like reticulations, floating leaves elliptic-lanceolate subcoriaceous many-nerved petiolate, peduncle about as long as the leaves, spikes elliptical.—β; floating leaves none. *P. lanceolatus*, *E. Bot. t.* 1985. *E. Fl. v. i. p.* 232.

Pools and ditches.—α. and β. growing together in Anglesea. *Rev. H. Davies.* Angus-shire, *G. Don.* Kincardineshire, *Mr. Maughan.* In the Losie, by Elgin, *Rev. G. Gordon. Fl.* July. 4.—This plant has been very little understood till Mr. Wilson found it growing in a small rivulet in Anglesea, having a moderately swift stream. *Floating leaves* are *always* found where the current is slow. The chain-like reticulations are only distinguishable near the mid-rib on the submersed leaves, the floating leaves being elegantly overspread by them." (*Wilson in litt.*) This is quite correct, and the portion of chain-like reticulations increases gradually upwards. The difficulty is now to distinguish this plant from the preceding, than which, however, it is much smaller and more delicate in all its parts. Sir J. E. Smith considered the *P. setaceus* of Linn. and Huds. and *Fl. Brit.* to be probably the same as the present; but this can hardly be.

12. P. *rufescens*, Schrad. (*reddish Pond-weed*); submersed leaves lanceolate membranaceous many-nerved with connecting veins and many linear reticulations at the midrib, floating ones subcoriaceous on long stalks. *Cham. et Schlecht. in Linnæa, v. ii. p.* 210.—*P. fluitans*, *E. Bot. t.* 1286. *E. Fl. v. i. p.* 230, (*not of Roth.*)

Ditches and slow streams in many parts of England; Anglesea, *Mr. Wilson.* Near Glasgow and Forfar; in the Gaddie, at Premnay, Aberdeenshire, *Rev. G. Gordon. Fl.* July. 4.—" This does, in some situations, much resemble *P. lucens.* The coriaceous floating leaves are nearly as acute as the lower ones, differing only in their firmer texture and in being stalked, the ribs, shape, and size are much the same in both. The lateral ribs or nerves are by no means separate at the base of the leaf, but arise from various parts of the central rib; some of them one-third the length of the leaf from its base; they are from 6—7 in number on each side, 2 of them more evident than the rest: flower-stalk not thickened upwards." (*Wilson in litt.*) It is remarkable for its reddish-olive colour, and is perhaps better known by its general aspect, size, and hue, than by any character that can be applied to it. To me, the above species with floating leaves seem gradually to pass into one another.

13. P. *oblóngus*, Viv. (*blunt-fruited broad-leaved Pond-weed*); " floating leaves coriaceous, lower ones submersed or all floating, (leafless petioles none) nuts minute blunt at the back." *Cham. et Schlecht. in Linnæa, v. ii. p.* 214. *t.* 6. *f.* 19. " *Viviani, Fragm. Fl. It. i. t.* 2."

Ditches near Henfield? *Mr. D. Turner. Fl.* July. 4.—I introduce this on the authority of specimens received by Chamisso and Schlechtendal from Mr. Turner, never having seen the plant. The *fruit* is described

and figured as quite rounded and obtuse on the back, whereas in the following species it is decidedly acute, (when dried only. *Wils.*)

14. P. *nátans*, Linn. (*sharp-fruited broad-leaved Pond-weed*); lower leaves linear submembranaceous or wanting, upper elliptical coriaceous floating, all on long stalks many-nerved distinctly cellular, fruit carinated. *E. Bot. t.* 1822. *E. Fl. v. i. p.* 228.

Stagnant waters and slow streams, frequent. *Fl.* June, July. ♃.—Very variable, in the size of the plant, and in the shape of its floating leaves, which are more or less elongated, sometimes linear-lanceolate, obtuse at the base or decurrent with the footstalks. The *lower leaves* appear to me to differ from the submersed leaves of all the others (except the last perhaps,) in having their substance composed of the same small, but distinct, cells or reticulations as the floating ones. These submersed leaves are frequently wholly wanting, especially when the plant grows in very shallow water. Chamisso and Schlechtendal describe the lower petioles as leafless, but this assuredly is not always the case.

20. Rúppia. *Linn.* Ruppia.

1. R. *marítima*, Linn. (*Sea Ruppia*). *E. Bot. t.* 136. *Hook. in Fl. Lond. t.* 50. *E. Fl. v. i. p.* 237.

Salt-water pools, and ditches. *Fl.* July, Aug. ♃.—*Stems* slender, filiform, flexuose, branched, leafy. *Leaves* linear-setaceous, with *sheaths* sometimes narrow and small, at other times large and inflated. *Spadix* at first very short, included in the *sheath* or *spatha*, with 2 green *flowers*, one above another on opposite sides, and quite destitute of perianth. *Anthers* large, sessile, subquadrate, bursting horizontally, 1-celled. Mertens and Koch say that each pair is, in fact, the 2 cells of 1 anther; and that there are, in reality, but 2, sessile *stamens*. *Pollen*, a tube with 3 globules, 1 in the middle and 1 at each end of the tube. *Germens* resembling 4 minute tubercles in the centre between the anthers. At the time of flowering, the *spadix* lengthens remarkably, to the height of 5 or 6 inches or more, and becomes spirally twisted, so as to bring the blossoms to the surface of water: but Mr. Wilson observes the fruit to be submersed in every stage. When the *germens* swell, their base is elongated into a footstalk, one or two inches long. Each then becomes an oblique, ovate, acuminated *drupe*. This *drupe* is sometimes more beaked than at other times, and the sheaths of the leaves are sometimes but little dilated; then the plant becomes *R. rostellata* of Koch, and of Reichenbach in his *Iconog. t.* 174. *f.* 306, which indeed is the more common state of the plant with us. I have only seen such large sheaths as are figured for the true *R. maritima, Linn.* (Reichenb. *Iconog. t.* 174. *f.* 307.), on specimens from the south of Europe. Yet the latter author quotes my figures in Flora Lond. as admirably characteristic of his *maritima*.

21. Sagína. *Linn.* Pearl-wort.

1. S. *procúmbens*, Linn. (*procumbent Pearl-wort*); perennial, glabrous, stems procumbent, leaves shortly mucronate, petals much shorter than the calyx. *E. Bot. t.* 880. *E. Fl. v. i. p.* 238.

Waste places, and dry pastures, frequent. *Fl.* May—Aug. 4.—*Stems* spreading, 2—4 inches long, in alpine situations growing amongst *Spergula subulata*, from which it is with difficulty distinguished: and often sending out roots from different parts of the stem at the insertion of the leaves, and these throwing up new plants. *Leaves* linear-subulate, connate, membranous at the margins at the base, tipped with a short pellucid point or mucro. *Peduncles* solitary, axillary and terminal, about an inch long. *Flowers* at first drooping.

2. S. *apétala*, Linn. (*annual small-flowered Pearl-wort*); annual, stems slightly hairy erect or ascending, leaves aristate fringed, petals much smaller than the calyx. *E. Bot. t.* 881. *E. Fl. v. i. p.* 240.

Dry gravelly places, on walls, &c. frequent, and sometimes growing upon the sea-shore with the following species. *Fl.* May, June. ⊙.—Slenderer than the last, smaller and annual. *Leaves* narrower, more bristle-pointed, more glaucous and slightly hairy at the margins, sometimes glabrous. *Stems* also hairy. *Petals* always present, according to Mr. W. Wilson, obcordate, or wedge-shaped and truncated.

3. S. *marítima*, Don, (*Sea Pearl-wort*); annual, glabrous, stems erect or procumbent only at the base, leaves fleshy obtuse, petals none, calyx rather longer than the capsule. *Don's Hort. Sicc. Br. n.* 155. *E. Bot. t.* 2195. *Hook. in Fl. Lond. N. S. t.* 115.—*S. stricta, Fries.—Svensk, Bot. t.* 562. *f.* 2.

Sea-coast of England, Ireland, Scotland, not unfrequent. *Fl.* May, Aug. ⊙.—A very distinct and well-marked species, with a reddish or purplish tinge, especially on the stems and calyces. Quite glabrous. *Petals* altogether wanting. *Cal.* blunt, longer than the capsule. *Leaves* without any apiculus, fleshy, "rounded at the back," (*Wilson*).

22. Mœnchia. *Ehrh.* Mœnchia.

1. M. *erécta*, Sm. (*upright Mœnchia*). *E. Fl. v. i. p.* 241. *M. glauca, Pers.—Sagina erecta, Linn.—E. Bot. t.* 609.

Pastures, in a gravelly soil. *Fl.* May. ⊙.—*Stem* 2—4 inches high, erect, or frequently a little reclining at the base, glabrous as well as the *leaves*, which are opposite, linear-lanceolate, acute, rigid, glaucous. *Cal. leaves* large, acuminate, white and membranous at the margin. *Pet.* lanceolate, entire, as long as the calyx. *Capsule* as in *Cerastium*.

23. Tillæa. *Linn.* Tillæa.

1. T. *muscósa*, Linn. (*Mossy Tillæa*); stems branched and decumbent at the base, flowers axillary sessile mostly 3-cleft. *E. Bot. t.* 116. *E. Fl. v. i. p.* 242.

On moist barren sandy heaths, in various parts of England, not found in Scotland. A troublesome weed in gravel walks in some parts of Norfolk and near London. *Fl.* May, June. ⊙.—A minute succulent plant, scarcely 2 inches high, allied to *Sedum:* with small reddish, opposite, oblong, blunt *leaves*. *Cal. leaves* mostly 3, bristle-pointed. *Petals* very small, almost subulate, white, or tipped with rose-colour.

24. Radíola. *Gmel.* Flax-seed.

1. R. *millegrána*, Sm. (*Thyme-leaved Flax-seed*). *E. Bot. t.* 890. *E. Fl. v. i. p.* 243.—*R. linoides*, *Gmel.*—*De Cand.*—*Linum Radiola*, *Linn.*

Moist gravelly and boggy soils, in many places. *Fl.* July, Aug. ⊙.—A very minute plant, 1—2 inches high, repeatedly dichotomous. *Leaves* distant, ovate, entire, glabrous, under a high power of the microscope appearing dotted. *Flowers* axillary and terminal, stalked, solitary, on short peduncles. *Cal.* segments united so as to form a monophyllous many-toothed calyx.

CLASS V. PENTANDRIA. 5 *Stamens.*

ORD. I. MONOGYNIA. 1 *Style.*

* *Perianth double, inferior. Corolla monopetalous. Germen deeply 4-lobed. Fruit with* 4, (*or fewer by imperfection*) *apparently naked seeds.*—*Nat. Ord.* Borragineæ, *De Cand.* (Asperifoliæ, Linn.)

† *Throat of the corolla naked.*

1. Échium. *Cor.* irregular, its *throat* dilated, open and naked. *Stigma* deeply cloven.—Named from ἐχις, a *Viper;* because this, or some allied plant, was supposed to be an effectual remedy against the bite of that animal.

2. Pulmonária. *Cal.* with 5 angles, 5-cleft. *Cor.* funnel-shaped, its throat naked.—Named from *Pulmo*, the *lungs;* from the use formerly made of this and other Borragineæ in pulmonary affections. In the present instance, the spotted leaves, resembling the lungs, were the principal recommendation.

3. Lithospérmum. *Cal.* in 5 deep segments. *Cor.* funnel-shaped, its orifice naked.—Named from λιθος, a *stone*, and σπερμα, a *seed;* from its shining, very hard seeds or nuts. The English name *Gromwell*, has the same origin in the Celtic: *graun*, a seed, and *mil*, a stone.

†† *Throat of the corolla more or less closed with scales.*

4. Sýmphytum. *Cal.* 5-cleft. *Cor.* swollen upwards, its throat closed with connivent subulate scales.—Named from συμφυω, to *unite;* from its imagined healing qualities.

5. Borágo. *Cal.* 5-cleft. *Cor.* rotate, having its mouth closed with 5, obtuse and emarginate teeth.—Named from *Cor*, heart,[1] and *ago*, to bring: thence corrupted into *Borago*, or as the French spell it, *Borrago.*

[1] Hence the old adage; "I *Borage*, always bring Courage."

6. Lycópsis. *Cal.* 5-cleft. *Cor.* funnel-shaped with a curved *tube*, the mouth closed with convex, connivent scales. *Nuts* concave at the base.—Named from λυκος, a *wolf*, and οψις, a *face*; from a fancied resemblance in its gaping flower to the head of a wolf.

7. Anchúsa. *Cal.* 5-cleft or 5-partite. *Cor.* funnel-shaped, *tube* straight, its mouth closed with convex, connivent scales. *Nuts* concave at the base.—Named from αγχουσα, *paint.* The roots of one species, *A. tinctoria*, yield a red dye which was used in former times to stain the face.

8. Myosótis. *Cal.* 5-cleft. *Cor.* salver-shaped, the lobes obtuse, the mouth half closed with short rounded valves. *Nuts* perforated at the base.—Named from μυς, υος, a *mouse*, and ους, ωτος, an *ear*; from the shape of the leaves.

9. Asperúgo. *Cal.* 5-cleft, unequal, with alternate smaller teeth. *Cor.* (short) funnel-shaped, its mouth closed with convex connivent scales. *Nuts* covered by the folded and compressed calyx.—Named from *asper*, *rough*; eminently applicable to this, even among the groupe of *Asperifoliæ*.

10. Cynoglóssum. *Cal.* 5-cleft. *Cor.* (short) funnel-shaped, its mouth closed with convex, connivent scales. *Nuts* depressed, fixed to the *style* or central column.—Named from κυων, a *dog*, and γλωσσα, a *tongue*; from the shape and texture of the leaf.

** *Perianth double, inferior. Corolla monopetalous. Seeds covered with a distinct capsule.*

11. Anagállis. *Cal.* 5-partite. *Cor.* rotate. *Stamens* hairy. *Capsule* bursting all round transversely.—*Nat. Ord.* Primulaceæ, *Vent.*—Named from αναγελαω, *to laugh.* Pliny says the *Anagallis* excites pleasure: and Dioscorides that it removes obstructions of the liver which create sadness.

12. Lysimáchia. *Cal.* 5-partite. *Cor.* rotate. *Stam.* not distinctly hairy. *Caps.* 1-celled, 10-valved.—*Nat. Ord.* Primulaceæ, *Vent.*—Named in honour of king *Lysimachus*, according to some; according to others from λυσις, a *dissolving*, and μαχη, *battle.* The English name, it will be at once seen, has a similar meaning. Pliny says it tames restive horses.

13. Cýclamen. *Cal.* campanulate, $\frac{1}{2}$ five-cleft. *Cor.* rotate, the mouth prominent, the segments reflexed. *Caps.* globose, 1-celled, opening with 5 teeth.—*Nat. Ord.* Primulaceæ, *Vent.*—Named from κυκλος, a *circle*, probably from the circles formed by the spiral peduncles. In French, *Pain de porçeau*, and in English *Sow-bread*, because the large tuberous roots are eagerly sought by swine, notwithstanding their highly acrid nature.

14. Prímula. *Cal.* tubular, 5-toothed. *Cor.* salver-shaped, its

tube cylindrical, its mouth open. *Caps.* opening with 10 teeth.—*Nat. Ord.* PRIMULACEÆ, *Vent.*—Named from *primus, first,* on account of the early appearance of the flowers in the commoner species.

15. HOTTÓNIA. *Cal.* 5-partite. *Cor.* salver-shaped, with a short *tube. Stamens* inserted at the mouth of the tube. *Stigma* globose. *Caps.* globose, (valveless, *Spr.*, opening with 5 teeth, *Sm.*) tipped with the long *style.*—*Nat. Ord.* PRIMULACEÆ, *Vent.*—Named after *Pierre Hotton,* a Professor at Leyden during the latter half of the 17th century.

16. MENYÁNTHES. *Cal.* 5-partite. *Cor.* funnel-shaped, the segments hairy within. *Stigma* 2-lobed. *Capsule* 1-celled; *seeds* parietal. —*Nat. Ord.* allied to GENTIANEÆ, *Br.*—Name, μην, a *month,* and ανθος, a *flower.* Sir J. E. Smith says the blossoms continue in perfection about a month.

17. VILLÁRSIA. *Cal.* 5-partite. *Cor.* rotate, the limb often ciliated. *Caps.* 1-celled. *Seeds* parietal.—*Nat. Ord.* allied to GENTIANEÆ, *Br.*—Named in compliment to *M. de Villars,* author of *Flore du Dauphiné.*

18. ERYTHRÆA. *Cal.* 5-cleft. *Cor.* funnel-shaped, marcescent, its limb short. *Anthers* at length spirally twisted. *Style* erect. *Stigmas* 2. *Caps.* linear, 2-celled. *Br.*—*Nat. Ord.* GENTIANEÆ, *Juss.*—Named from ερυθρος, *red,* the colour of the flowers in most of the species.

19. DATÚRA. *Cal.* tubular, deciduous. *Cor.* funnel-shaped, plaited. *Stigma* 2-lobed. *Capsule* ½ four-celled, 4-valved.—*Nat. Ord.* SOLANEÆ, *Juss.*—Named from its Arabic appellation *Tâtôrah,* (Forskal). In some parts of the East Indies it is called *Dáturo.*

20. HYOSCÝAMUS. *Cal.* tubular, 5-cleft. *Cor.* funnel-shaped, oblique. *Caps.* 2-celled, opening with a lid.—*Nat. Ord.* SOLANEÆ, *Juss.*—Named from υς, υος, a *Hog,* and κυαμος, a *bean.* Hogs are said to eat the fruit, which bears some resemblance to a bean. The seeds do not prove injurious, though the plant be esteemed poisonous.

21. ATRÓPA. *Cal.* 5-partite. *Cor.* campanulate, the lobes equal. *Stam.* distant. *Berry* of 2 cells.—*Nat. Ord.* SOLANEÆ, *Juss.*—Named from *Atropos,* one of the Fates; in allusion to its deadly quality, whence also its Eng. name *dwale,* (deuil, Fr., dolor, Lat.)

22. SOLÁNUM. *Cal.* 5—10-partite. *Cor.* rotate. *Anthers* opening with 2 pores at the extremity. *Berry* roundish, 2-or more celled.—*Nat. Ord.* SOLANEÆ, *Juss.*—Name of doubtful origin. According to some from *Solamen,* on account of the *comfort* or *solace* derived from some species as a medicine.

23. Verbáscum. *Cal.* 5-partite. *Cor.* rotate, irregular. *Stam.* declined, often hairy. *Caps.* of 2 cells and 2 valves.—*Nat. Ord.* Solaneæ, *Juss.*—Name altered from *Barbascum*, from *Barba*, a beard; in allusion to the shaggy nature of its foliage.

24. Convólvulus. *Cal.* 5-cleft. *Cor.* campanulate, plicate. *Stigmas* 2. *Caps.* of 1—3 cells, with as many valves. *Cells* 1—2-seeded.—*Nat. Ord.* Convolvulaceæ, *Juss.*—Named from *convolvo*, to *entwine:* whence, too, the English name *Bindweed.*

25. Polemónium. *Cal.* 5-cleft. *Cor.* rotate. *Stam.* inserted upon the 5 teeth or valves which close the mouth of the corolla. *Stigmas* 3. *Capsule* 3-celled, 3-valved.—*Nat. Ord.* Polemoniaceæ, *Juss.*—Named from πολεμος, *war:* according to Pliny this plant having caused a war between two kings who laid claim to its discovery.

26. Azálea. *Cal.* 5-partite. *Cor.* shortly campanulate, regular. *Stam.* inserted at the base of the *cor.*, strait. *Anthers* bursting longitudinally. *Caps.* 2—3-valved, 2—3-celled; dissepiment formed by the inflexed margins of the bifid valves. *Seeds* attached to a central, at length free, receptacle.—*Nat. Ord.* Ericeæ, *Juss.*—Named from αζαλεος, *parched, arid:* because in such places the plant grows.

27. Vínca. *Cal.* 5-partite. *Cor.* salver-shaped, the segments oblique, spirally imbricated in the bud. *Follicles* 2, erect. *Seeds* naked (destitute of seed-down).—*Nat. Ord.* Apocyneæ, *Juss.*—Name; supposed from *vincio*, to *bind*, as the trailing stems do those plants which grow in its neighbourhood.

*** *Perianth double, superior. Corolla monopetalous.*

28. Sámolus. *Cal.* 5-cleft. *Cor.* salver-shaped, its tube short, with 5 scales (imperfect *stamens*) at its mouth, alternating with the lobes. *Capsule* half-inferior, 1-celled, many-seeded, opening with 5 valves. *Seeds* upon a large central free receptacle.—*Nat. Ord.* allied to Primulaceæ, *Br.*—Named, some say, from the island of Samos, where *Valerandus* a botanist of the 16th century is alleged to have gathered our *Samolus Valerandi.* Others, as Théis, derive it from *san*, *salutary*, and *mos*, a *hog* in Celtic; because it was used by the ancients for curing diseases of hogs.

29. Jasióne. *Cor.* rotate, in 5 deep segments. *Anthers* united at their base. *Stigma* club-shaped. *Caps.* 2-celled, opening at the top. (*Flowers collected into a head, within a many-leaved Involucre.*)—*Nat. Ord.* Lobeliaceæ, *Juss.*—Name, supposed from ιον, a *violet*, from the blue colour of the flowers, applied by Pliny to some esculent plant.

30. Lobélia. *Cor.* irregular, 2-lipped, cleft longitudinally on

the upper-side. *Anthers* united. *Stigma* hairy. *Capsule* 2—3-celled, the upper free part 2-valved.—*Nat. Ord.* Lobeliaceæ, *Juss.* —Named in honour of *Matthias Lobel* or *L'Obel*, a Fleming, but naturalized in England, where he published several learned botanical works.

31. Phyteúma. *Cor.* rotate, in 5 deep segments. *Filaments* dilated at the base. *Stigma* 2—3-cleft. *Caps.* of 2—3 cells, bursting at the side. (*Flowers in dense bracteated spikes or heads.*)—*Nat. Ord.* Campanulaceæ, *Juss.*—Name, φυτευμα (the same as φυτον, a *plant*), given, *par excellence*, to some medicinal plant by the ancients, but which probably bore little or no relation with the present.

32. Campánula. *Cor.* campanulate or subrotate, with 5 broad and shallow segments. *Filaments* dilated at the base. *Stigma* 2-5-fid. *Caps.* 2—5-celled, bursting laterally, rarely at the extremity.—*Nat. Ord.* Campanulaceæ, *Juss.*—Named, from the usual form of the corolla, *Campana*, a *bell.*

33. Lonicéra. *Cor.* irregular. *Berry* 1—3-celled, many-seeded.—*Nat. Ord.* Caprifoliaceæ, *Juss.*—Named in honour of *Adam Lonicer*, a German Botanist.

**** *Perianth double, inferior. Corolla of* 4 *or* 5 *petals.*

34. Rhámnus. *Cal.* urceolate, 4—5-cleft. *Petals* 4—5, sometimes wanting. *Stamens* opposite the petals. *Berry* 2—4-celled, 2—4-seeded.—*Nat. Ord.* Rhamneæ, *Juss.*—Name, ραμνος, in Greek, a *branch;* from its numerous branches.

35. Euónymus. *Cal.* flat, 4—5-cleft, having a peltate disk within. *Pet.* 4—5. *Stam.* alternating with the petals, inserted upon glands at the margin of the disk. *Caps.* with 3—5 angles, and as many cells and valves. *Seeds* with a coloured fleshy *arillus.* —*Nat. Ord.* Celastrineæ, *Br.*—Named from *Euonyme*, mother to the Furies, in allusion to the injurious effects produced by the fruit of this plant.

36. Impátiens. *Cal.* of 2, deciduous leaves. *Pet.* 5, very irregular, lower one cucullate with a spur. *Anthers* united. *Capsule* of 5, elastic valves.—*Nat. Ord.* Balsamineæ, *Rich.*—Name (*impatient*); from the sudden opening of the valves of the capsule, when the fruit is touched.

37. Víola. *Cal.* of 5 leaves extended at the base. *Pet.* 5, unequal, the under one spurred at the base. *Anthers* connate, 2 of them spurred behind. *Capsule* of 1 cell, and 3 valves.—*Nat. Ord.* Violarieæ, *DC.*—Name:—Various are the Etymologies of this familiar word, for it is nearly the same in all languages. According to some from ιον, (being the food of the metamorphosed

Io) the Greek appellation. "A *vi olendi*," (from *the power of its scent*), according to others. And again "quod juxta *vias* nasci amat;" because it loves to grow by *way-sides*, where it introduces itself to the notice of passengers. The reader may determine for himself.

***** *Perianth double, superior. Corolla of* 5 *petals.*

38. Ríbes. *Cal.* 5-cleft, bearing the *Petals* and the *Stamens*. *Style* divided. *Berry* 1-celled, many-seeded.—*Nat. Ord.* Grossularieæ, *De Cand.*—Name: *Ribes* was a word applied by the Arabic Physicians to a species of *Rhubarb*, *Rheum Ribes*. Our older Botanists believed that it was our *Gooseberry;* and hence Bauhin called that plant *Ribes acidum*.

39. Hédera. *Cal.* of 5 teeth. *Pet.* broadest at the base. *Style* simple. *Berry* with 3—5 *seeds*, crowned by the calyx.—*Nat. Ord.* Caprifoliaceæ, *Juss.*—Name of uncertain origin.

****** *Flowers incomplete.*

40. Glaúx. *Perianth* single, inferior, campanulate, coloured, of 1 piece, 5-lobed. *Caps.* globose, 1-celled, 5-valved, with about 5 *seeds*.—*Nat. Ord.* Primulaceæ, *Vent.* (Plantagineæ, *Don.*) —Named from γλαυκιον, given to a plant of a sea-green colour, or because it grew near the sea.

41. Illécebrum. *Cal.* of 5 leaves, cartilaginous, subcucullate, ending in an awl-shaped point. *Pet.* 0, or reduced to 5 subulate *scales*. *Capsule* superior, with one *seed*, covered by the calyx.—*Nat. Ord.* Paronychiæ, *St. Hil.*—Name, *illecebra*, an *enticement* or *attraction*, anciently given to a showy tribe of plants, now confined to a genus possessing few charms.

42. Thésium. *Perianth* 4—5-cleft, persistent. *Stam.* with a small fascicle of hairs. *Nut* inferior, somewhat drupaceous.—*Nat. Ord.* Santalaceæ, *Br.*—Name of doubtful origin.

ORD. II. DIGYNIA.—2 *Styles.*

* *Perianth double, inferior. Cor. monopetalous.*

43. Swértia. *Cal.* 4—5-partite. *Cor.* rotate, with 2 nectariferous glands at the base of each segment. *Caps.* 1-celled, 2-valved. —*Nat. Ord.* Gentianeæ, *Juss.*—Named after *Emmanuel Swert*, a Dutch botanist, who published a Florilegium in 1612.

44. Gentiána. *Cal.* 4—5-cleft. *Cor.* subcampanulate, funnel- or salver-shaped, tubular at the base, destitute of nectariferous glands. *Styles* often combined. *Caps.* of 1 cell, 2-valved.—*Nat. Ord.* Gentianeæ, *Juss.*—Named from *Gentius*, King of Illyria, who, according to Pliny, brought into use the species so much valued in medicine, the *bitter Gentian*, *G. lutea*.

45. Cúscuta. *Cal.* 4—5-cleft. *Cor.* campanulate, 4—5-lobed.

Caps. bursting all round transversely at the base, 2-celled, with the cells 2-seeded.—*Parasitical leafless* plants, *with long twining filiform* stems.—*Nat. Ord.* Convolvulaceæ, *Juss.*—Name, the same as κασυθα, probably from the Arabic *Keshout.* (*Théis.*)

** *Perianth double,*[1] *superior. Petals* 5. *Seeds* 2.—*Nat. Ord.* Umbelliferæ.

This is so extensive and so perfectly natural a groupe, and the genera which compose it are with such difficulty distinguished the one from the other, that I shall here offer a few remarks, with a view to render the study of them more easy to the young botanist. All our Umbelliferous plants are herbaceous; they have *leaves* which are alternate, mostly very compound, with dilated and sheathing bases. But what characterizes them best, and gives the name to the Natural Family, is the circumstance of the *flowers*, in almost every instance, being arranged in compound *umbels*, with or without *Involucres*. The *Germen* is inferior, (enveloped by, and adherent with, the tube of the calyx,) 2-celled, presenting just below where the petals are inserted, a thickened margin, or sometimes teeth or segments, the only free part of the calyx. There are 5 *Petals*, entire or heart-shaped, often bifid with an incurved point between the 2 lobes, equal or unequal. *Stam.* 5, spreading: these, as well as the petals, are inserted upon a fleshy gland or ring, which is more or less covered by the dilated base of the styles. *Styles* 2, united at their base into a 2-lobed, fleshy disk, which covers the top of the germen. *Stigma* capitate. *Fruit* of 2, single-seeded, indehiscent *Pericarps*, or *carpels*, as they may be conveniently called, eventually separating, each with its style and for a time suspended by a central, filiform, and generally bipartite *column* or *axis*. They are variously shaped, and variously marked with longitudinal *ridges*. The number of these ridges upon each *carpel* is 5, more or less apparent, sometimes obliterated, separated by *interstices*, which are more or less prominent. Of these *ridges*, so important in distinguishing the generic characters, *one* occupies the middle of the back, *one* is situated on each side, at or near the margins, and there is *one* on each side, between the marginal ones and the dorsal one; the latter or *intermediate* ones, together with the *central* one, constitute the 3 *dorsal* ones. These 5 are the *primary* ridges; because they are always, however indistinctly, present. The *lateral* ridges form either in themselves the margins of the carpels, when they are termed *marginal;* or they project to a little distance from the margins, when they may be considered *accessory;* or they may be situated on the plane, or inner face of the carpels, and can then only be seen by separating the two carpels. Between the primary ridges are sometimes 4 others, (*secondary,*) one in each interstice. Within the coat of the carpels are often longitudinal ducts, or canals, filiform or clavate, replete with an oily or resinous substance, and generally coloured; so that they are frequently visible without dissection. These are called *vittæ*, and rank next to the ridges in discriminating genera. They seem

[1] In this *Division*, so much of the calyx is incorporated with the germen, and so minute are the segments, or free portions, that at first sight, (as in the 2d *Div.* of the Cl. IV. Galium, &c.) it appears as if petals only were present.

to be tolerably constant in each genus, as to the number of them lodged in the interstices, between the ridges; but on the inner face of the carpels, they are inconstant. The arrangement of the Umbelliferæ which I have here adopted, is almost entirely that of Dr. Koch, in the *Nova Acta Acad. Naturæ Curiosorum*, for 1824. The parts on which the marks of distinction depend are assuredly minute, and in vain will the student hope to make himself master of this extensive and important tribe of plants, without devoting his earnest attention to the subject, and carefully analyzing the parts of the flowers, and, more especially, the fruits.

SUBORD. I. *Seed or Albumen plane in front.* ORTHOSPERMÆ.

* *Umbels simple, or imperfect: no Vittæ to the fruit.*

I. HYDROCOTYLE *TRIBE. Fruit laterally compressed. Carpels convex or acute on the back.*

46. HYDROCÓTYLE. *Cal.* obsolete. *Pet.* ovate, entire, acute, plane at the extremity. *Fruit* laterally compressed and flat, biscutate. *Carpels* with 5 filiform *ridges*, of which the central dorsal one and the lateral ones are often obsolete, and the two intermediate ones arched, without *vittæ*. *Seed* compressed and keeled.—Named from υδωρ, *water*, and κοτυλη, a *cup* or *vase*. The leaves are a little depressed, and stalked in the centre, and may thence somewhat resemble a cup or platter. The plant grows in watery places.

II. SANICULA *TRIBE. Fruit ovato-globose.*

47. SANÍCULA. *Cal.* of 5 teeth, leafy. *Pet.* erect, obovate, with long inflected connivent points. *Fruit* terete, subglobose. *Carpels* densely clothed with hooked prickles, without *ridges*, with many *vittæ*. *Seed* semi-globose.—Universal involucre *lobed;* partial *of many leaves.*—*Name* derived from *sano*, to *heal;* because this plant was supposed "to make whole and sound all inward wounds and outward hurts."

** *Umbels compound, or perfect. Vittæ various, rarely none.*

† *With primary ridges only.*

III. AMMI *TRIBE. Fruit laterally compressed or didymous.*

48. CICÚTA. *Cal.* of 5 teeth, leafy. *Pet.* obcordate, with an inflexed point. *Fruit* roundish, contracted at the side, didymous. *Carpels* with 5 nearly plane, equal *ridges*, of which the lateral ones are marginal. *Interstices* with single *vittæ*, which in the dry fruit are more raised than the ridges. *Seed* terete.—Universal involucre *of few leaves, or* 0; partial *of many leaves.*—Name: *Cicuta* was a term given by the Latins to those spaces between the joints of a reed of which their pipes were made; and the stem of this plant is similarly marked by hollow articulations.

49. ÁPIUM. *Cal.* obsolete. *Pet.* roundish, entire, with a small,

closely involute point. *Fruit* roundish, laterally contracted, didymous. *Carpels* with 3, filiform, equal *ridges*, of which the lateral ones are marginal. *Interstices* with single *vittæ*, outer ones frequently with 2—3 *vittæ*. *Seed* gibbous, convex, plane in front.—Universal *and* partial involucres 0.—Name, *apon*, *water*, in Celtic; from the places where the plant grows.

50. Petroselínum. *Cal.* obsolete. *Pet.* roundish, incurved, entire, scarcely emarginate, contracted into an inflexed segment. *Fruit* ovate, lateral, contracted, subdidymous. *Carpels* with 5 filiform equal *ridges*, of which the lateral ones are marginal. *Interstices* with single *vittæ*. *Seed* gibbous, convex, plane in front.—Universal involucre *of few*, partial *of many leaves*.—Differs from *Apium* in the petals being contracted into an oblong segment, and in having the fruit ovate, and subdidymous.—Name, πετρος, a *stone*; because it is a native of rocky or stony places.

51. Trínia. *Cal.* obsolete. *Pet.* of the *barren plant* lanceolate, subemarginate, with a contracted involute point; of the *fertile* ovate, with a short inflexed point. *Fruit* laterally compressed, ovate. *Carpels* with 5 prominent, filiform, equal *ridges*, of which the lateral ones are marginal. *Interstices* without *vittæ* or nearly so: but with a distinct canal under each ridge. *Seed* gibbous, convex.—Involucres *various*.—The two kinds of petals, the diœcious plants, and the vittæ or evident canals beneath the ridges, together with a peculiar habit, constitute this a very distinct genus.—Named in honour of *Dr. C. B. Trinius*, a learned botanist of St. Petersburgh, Author of a *Species Graminum*, &c.

52. Helosciádium. *Cal.* of 5 teeth, or obsolete. *Pet.* ovate, entire, acute, or rather obtuse and apiculated, the point straight or inflexed. *Fruit* laterally compressed, ovate, or oblong. *Carpels* with 5 filiform, equal, slightly prominent *ridges*, of which the lateral ones are marginal. *Interstices* with single *vittæ*. *Seed* gibbous or rounded, convex, nearly plane in front.—Involucre *various*.—Name ἕλος, a *marsh*, and σκιαδιον, an *umbel*.

53. Síson. *Cal.* obsolete. *Pet.* broadly obcordate, deeply notched and curved with an inflexed point. *Fruit* laterally compressed, ovate. *Carpels* with 5 filiform, equal *ridges*, of which the lateral ones are marginal. *Interstices* with single, short, club-shaped *vittæ*. *Seed* gibbous, convex, plane in front.—Universal *and* partial involucres *of few leaves*; partial *subdimidiate*.—Name, according to Théis, originating in the Celtic *sizun*, a *running brook*; some of the plants formerly placed in this genus delighting in such situations.

54. Ægopódium. *Cal.* obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* compressed laterally, oblong. *Carpels* with 5 filiform *ridges*, of which the lateral ones are marginal. *Interstices*

without *vittæ*. *Seed* tereti-convex, plane in front.—Universal *and* partial involucres 0.—Differs from *Carum* only in the absence of vittæ.—Named from αιξ, αιγος, a *goat*, and πους, a *foot;* the leaves being cleft something like a goat's foot.

55. Cárum. *Cal.* obsolete. *Pet.* obcordate. *Fruit* laterally compressed, oblong. *Carpels* with 5, filiform, equal *ridges*, their inner faces plane. *Interstices* with single *vittæ*. *Seed* tereti-convex, plane in front.—Universal *and* partial involucres *various*.—Name derived, according to Pliny, from that of the country *Caria*.

56. Búnium. *Cal.* obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* laterally contracted, linear-oblong, crowned with the conical immarginate base of the strait styles. *Carpels* with 5, equal, filiform, obtuse *ridges*, with many *vittæ*. *Seed* tereti-convex, plane in front.—Universal involucre 0; partial *of few leaves*.—Named from βουνος, a *hill*, where the plant delights to grow.

57. Pimpinélla. *Cal.* obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* laterally contracted, ovate, crowned with the swollen base of the reflexed styles. *Carpels* with 5 filiform equal *ridges*, of which the lateral ones are marginal. *Interstices* with many *vittæ*. *Seed* gibbous, plane in front.—*Universal* and *partial involucres* 0.—Name altered, as Linnæus informs us, from *bipennula, twice pinnated*.

58. Síum. *Cal.* of 5 teeth, or obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* laterally compressed, or contracted and subdidymous, crowned with the reflexed styles with their depressed bases. *Carpels* with 5 equal, filiform, rather obtuse *ridges*. *Interstices* with many *vittæ*. *Seed* subterete.—Universal involucre *various;* partial *of many leaves*.—Name derived, according to Théis, from the Celtic word *siw*, water.

59. Bupleúrum. *Cal.* obsolete. *Pet.* roundish, entire, point closely involute, broad, retuse. *Fruit* laterally compressed, subdidymous, crowned with the depressed base of the styles. *Carpels* with 5 equal and winged, filiform and sharp, or slender and obsolete *ridges*, of which the lateral ones are marginal. *Interstices* with or without *vittæ*. *Seed* tereti-convex, plane in front.—Involucres *various*. Leaves *undivided*.—Named from βους, an *ox*, and πλευρον, a *rib*, in allusion to the ribbed leaves of some species.

IV. Seseli *Tribe*. *Fruit rounded, (on a transverse section,) or roundish, or with the carpels compressed on the back.*

60. Œnánthe. *Cal.* of 5 teeth. *Pet.* obcordate, with an inflexed point. *Fruit* subterete, crowned with the strait styles. *Carpels* with 5, blunt, convex *ridges*, of which the lateral ones are marginal and a little broader. *Interstices* with single *vittæ*. *Seed* tereti-

convex; *axis* none.—Universal involucre *various;* partial *of many leaves.* Flowers of the ray on long pedicels, sterile; those of the disk sessile or shortly pedicellate, fertile.—Named from οινη, *a vine,* and ανθος, *a flower,* alluding to the vinous smell of the blossoms.

61. Æthúsa. *Cal.* obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* ovato-globose. *Carpels* with 5 elevated, thick, acutely carinated *ridges,* the lateral ones marginal and a little broader, bordered by a somewhat winged keel. *Interstices* with single *vittæ. Seed* semi-globose.—Universal involucre 0; partial *of* 3 *unilateral drooping leaves.*—Named from αιθω, to *burn,* on account of its acrid quality.

62. Fœnículum. *Cal.* obsolete. *Pet.* roundish, involute, narrower apex obtuse. *Fruit* subterete. *Carpels* with 5 prominent, obtuse, keeled *ridges,* of which the lateral ones are marginal and a little broader. *Interstices* with single *vittæ. Seed* subsemiterete. —Universal *and* partial *involucre* 0.—Named from *fœnum, hay,* its smell being compared to that of hay.

63. Séseli. *Cal.* of 5 teeth. *Pet.* obcordate, with an inflexed point. *Fruit* oval or oblong, subterete, crowned with the reflexed styles. *Carpels* with 5 prominent, filiform or thick, elevated corky *ridges,* of which the lateral ones are marginal and often a little broader. *Interstices* with a single *vitta. Seed* subsemiterete.—Universal involucre *various;* partial *of many leaves.*—Named from σεσελι, originally applied to some plant of this kind.

64. Ligústicum. *Cal.* of 5 teeth, or obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* subterete, or slightly and laterally compressed. *Carpels* with 5 sharp, somewhat winged, equal *ridges,* of which the lateral ones are marginal. *Interstices* with many *vittæ. Seed* subsemiterete.—Universal involucre *various;* partial *of many leaves.*—Named from *Liguria,* where the old *Ligusticum Levisticum* abounds. Hence, too, our word *Lovage.*

65. Siláus. *Cal.* obsolete. *Pet.* obovate, submarginate with an inflexed point, appendaged, or sessile and truncated at the base. *Fruit* subterete. *Carpels* with 5 sharp, somewhat winged equal *ridges,* of which the lateral ones are at the margin. *Interstices* with many *vittæ. Seed* subsemiterete.—Universal involucre *of few leaves, or none;* partial *of many leaves.*—Scarcely different from *Ligusticum,* except in its yellowish, nearly entire, (not acutely emarginate) petals, truncated and sessile at the base.—Name of dubious origin. It was applied by Pliny to some herb.

66. Méum. *Cal.* obsolete. *Pet.* entire, elliptical, the point incurved. *Fruit* subterete. *Carpels* with 5 prominent, acutely carinated, equal *ridges,* of which the lateral ones are at the margin.

Interstices with many *vittæ*. *Seed* subsemiterete.—Universal involucre *of few leaves or* 0; partial *of many leaves*.—Name; supposed to be the μηον of Dioscorides.

67. Crithmum. *Cal.* obsolete. *Pet.* elliptical, entire, involute. *Fruit* subterete. *Carpels* (spongy) with 5 elevated, sharp, somewhat winged *ridges*, of which the lateral ones are a little broader and marginal. *Seed* subterete, free, abundantly marked with *vittæ*.—Universal *and* partial involucres *of many leaves*.—Name from κριθη, *barley;* from a fancied resemblance between the fruit of this plant and a grain of Barley.

V. Angelica *Tribe*. *Fruit much and dorsally compressed, with a double wing on each side.*

68. Angélica. *Cal.* obsolete. *Pet.* elliptical-lanceolate, entire and inflexed at the point. *Fruit* subcompressed, 2-winged. *Carpels* with 3 elevated dorsal *ridges*, the lateral ones spreading into the broad wings of the fruit. *Vittæ* various.—Universal involucre *scarcely any*. (*Archangelica* and *Angelica*, Hoffm.)—Named *Angelic*, from its cordial and medicinal properties.

VI. Selínum *Tribe*. (*Peucedanum Tribe DC.*) *Fruit much and dorsally compressed, dilated at the margins into a single (though formed of 2 margins) even wing, not thickened at the edge.*

69. Peucédanum. *Cal.* of 5 teeth, or obsolete. *Pet.* obovate or obcordate, point inflexed. *Fruit* much flattened dorsally, with a broad thin margin. *Carpels* with the *ridges* nearly equidistant, the 3 intermediate ones filiform, the 2 lateral ones more obsolete, contiguous to or combined with the margin. *Seed* flat on its inner, face. *Interstices* with single *vittæ*.—Universal involucre *various;* partial *of many leaves*.—Named from πευκη, a *Pine tree*, and δανος, *dwarf*, on account of a resinous substance, said to be extracted from some of the species.

70. Pastináca. *Cal.* nearly obsolete. *Pet.* roundish, entire involute with a sharp point. *Fruit* much compressed dorsally, with a broad flat border. *Carpels* with very slender *ridges*, the 3 intermediate ones equidistant, the 2 lateral ones remote, contiguous to the border. *Interstices* with single evident *vittæ*. *Seed* flat.—Universal *and* partial involucres *of few leaves*.—Different from *Heracleum* in the entire, involute petals, and filiform, not clubbed, vittæ; in the remote lateral ridges from all the rest of this Tribe; and from *Peucedanum* also by the involute petals.—Name derived from *pastus, food*.

71. Heráclеum. *Cal.* of 5 teeth. *Pet.* obcordate, point inflexed; outer ones often radiant. *Fruit* remarkably and dorsally

compressed, with a broad and plane border. *Carpels* with very slender *ridges*, 3 of them dorsal, equidistant, 2 lateral ones remote, contiguous with the border. *Interstices* with single (evident) club-shaped *vittæ*. *Seed* flat.—Universal involucre *deciduous ;* partial *of many leaves.*—Named from Hercules, who is said to have brought this, or some allied plant, into use.

VII. Tordylium *Tribe.* *Fruit much and dorsally compressed, dilated at the margins with a wing, which is beaded, or waved and thickened at the edge.*

72. Tordýlium. *Cal.* of 5 teeth. *Pet.* obcordate, point inflexed; outer ones radiant, bifid. *Fruit* remarkably compressed dorsally, with an accessory, thick, often crenated margin. *Carpels* with very slender *ridges*, 3 of which are dorsal and equidistant, the 2 lateral ones contiguous to the thickened margin. *Interstices* with one or 3 *vittæ*. *Seed* flat.—Universal *and* partial involucres *of many leaves.*—Name, according to Linnæus, derived from τορνος, a *turning-lathe*, and ελλω, *to turn;* from the nearly orbicular seed-vessels. All that we can say with certainty, is, that it is the τορδυλιον of the Greeks.

†† *With primary and secondary ridges.*

VIII. Daucus *Tribe.* *Fruit somewhat dorsally compressed or rounded, with the lateral primary ridges on the inner face of the carpels, the secondary ones dilated into distinct prickles, or which are united into a wing at the base.*

73. Daúcus. *Cal.* of 5 teeth. *Pet.* obcordate, point inflexed; the outer often radiant and deeply bifid. *Fruit* dorsally compressed. *Carpels* with 5 primary *ridges,* filiform and bristly, of which the 3 intermediate ones are dorsal, the 2 lateral ones on the inner face; the 4 *secondary* ridges equal, more prominent, with one row of prickles, which are slightly connected at the base. *Interstices* under the secondary ridges, with single *vittæ*. *Seed* plane in front.—Universal *and* partial involucres *many-leaved, the former often primary.*—Name, the δαυκος of Dioscorides.

Subord. II. *Seed inflexed at the margin or deeply furrowed in front.*

† *With primary and secondary ridges.*

IX. Caucalis *Tribe.* *Fruit contracted or rounded, with the lateral primary ridges on the inner face of the carpels, all the secondary ones dilated into prickles or sétæ.*

74. Caúcalis. *Cal.* of 5 teeth. *Pet.* obcordate, point inflexed; outer ones radiant and deeply bifid. *Fruit* slightly laterally compressed. *Carpels* with 5 *primary,* filiform, bristly or prickly *ridges,* of which

the 3 intermediate ones are dorsal, having 1—3 rows of prickles, the 2 lateral ones on the inner face; the 4 *secondary ridges* more or less prominent, bearing 1 or 2 rows of prickles. *Interstices* under the secondary ridges with single *vittæ*. *Seed* involute.—*Universal and* partial involucres *many-leaved*.—Named from κεω, *to lie along*, and καυλος, *a stem*, i. e. trailing upon the ground.

75. Torílis. *Cal.* of 5 teeth. *Pet.* obcordate, point inflexed; outer ones larger and bifid. *Fruit* contracted at the side. *Carpels* with 5 *primary* bristly *ridges*, of which the 3 intermediate ones are dorsal, the 2 lateral ones on the inner face; the *secondary* ridges obliterated by the numerous prickles which fill the interstices. *Interstices* with single *vittæ* beneath the prickles.[1] *Seed* with the margin involute.—Involucre *various;* partial *of many leaves.*—Name of doubtful derivation: perhaps, as Smith suggests, from τορειο, to *carve* or *emboss;* in allusion to the fruit.

†† *With secondary ridges only.*

X. Scandix *Tribe. Fruit compressed or contracted at the side, elongated, generally beaked.*

76. Scándix. *Cal.* obsolete. *Pet.* obovate, with an inflexed point. *Fruit* laterally compressed, with a very long beak. *Carpels* with 5 obtuse equal *ridges*, the lateral ones marginal. *Interstices* without ridges, or obsolete *vittæ*. *Seed* tereti-convex, with a deep furrow in front.—Universal involucre 0, or *of few leaves;* partial *of* 5—7 *leaves.*—Named from σκεω, to *prick;* because of the sharp and long points to the seeds.

77. Anthríscus. *Cal.* obsolete. *Pet.* obcordate, with an inflexed, generally short, point. *Fruit* contracted on the side, rostrate. *Carpels* subterete, without *ridges*, the beak alone with 5 ridges. *Seed* tereti-convex, deeply furrowed in front.—Universal involucre *none;* partial *of many leaves.*—Name given by Pliny to a plant, allied probably to this genus, but whose derivation we are ignorant of.

78. Chærophýllum. *Cal.* obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* laterally compressed or contracted. *Carpels* with 5 obtuse, equal *ridges*, of which the lateral ones are marginal, with a deep furrow on the inner face of the carpels. *Interstices* with single *vittæ*. *Seed* tereti-convex, furrowed in front.—Universal involucre 0, *or of few leaves;* partial of *many leaves.*—Differs from all the *Ammi Tribe* in the deep furrow in front of each carpel.—Named from χαιρω, to *rejoice*, and φυλλον, a *leaf:*

[1] From the dense prickles of the interstices, the whole fruit appears to be covered with prickles without order; but such is seen to be not the case when the fruit is attentively examined.

hence our word *Chervil*, applied to the cultivated *Anthriscus Cerefolium*, whose leaves have an agreeable smell.

79. Mýrrhis. *Cal.* obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* laterally compressed. *Seed* with its sides involute, covered by a pericarp, formed of 2 membranes, the exterior having 5 equal, acutely carinated *ridges*, hollow within, closely adnate to the interior. *Vittæ* none.—Universal involucre 0; partial *of many leaves.*—Name derived perhaps from *Myrrha, myrrh;* the foliage of one species at least possessing an agreeable scent.

XI. Smyrnium *Tribe. Fruit turgid, compressed or contracted at the side.*

80. Echinóphora. *Cal.* of 5 teeth. *Pet.* obcordate, with an inflexed point, the extremity often long, bifid. *Flowers of the ray* sterile, on long stalks, *fertile* central and solitary. *Fruit* ovate, subterete, lodged in the receptacle, with a protruded beak. *Carpels* with 5 depressed, waved and striated, and equal *ridges*. *Interstices* with single *vittæ*, *vittæ* covered with a cobweb-like membrane.—Universal *and* partial involucres *many-leaved.*—Name derived from εχινος, a *hedgehog*, and φερω, *to bear;* in reference to the prickly nature of the plant.

81. Conium. *Cal.* obsolete. *Pet.* obcordate, with an inflexed point. *Fruit* laterally compressed, ovate. *Carpels* with 5 prominent, waved or crenated, equal *ridges*, of which the lateral ones are marginal. *Interstices* with many striæ, without *vittæ*. *Seed* with a deep narrow groove in front.—Universal involucre *of few leaves;* partial *of* 3 *leaves on one side.*—Name; κωνειον of Theophrastus, from κωνος, a *cone* or a *top*, whose whirling motion resembles the giddiness produced on the human constitution by the poisonous juice of this plant.

82. Physospérmum. *Cal.* of 5 teeth. *Pet.* obcordate, with an inflexed point. *Fruit* laterally contracted. *Carpels* reniformi-globose, didymous, each with 5, very slender, equal, filiform *ridges*, of which the lateral ones are placed within the margin. *Interstices* with single *vittæ*. *Seed* involutely semi-lunar.—Universal *and* partial involucres *of many leaves.*—Named from φυσα, a *bladder*, and σπερμα, a *seed*.

83. Smýrnium. *Cal.* obsolete. *Pet.* lanceolate or elliptical, entire, with an inflexed point. *Fruit* laterally contracted. *Carpels* reniformi-globose, didymous, each with 3 dorsal prominent sharp *ridges*, the 2 lateral and marginal ones nearly obsolete. *Interstices* with many *vittæ*. *Seed* involute.—Involucre *various.*—Named from σμυρνα, synonymous with μυρρα, *Myrrh;* from the scent of the juice.

Subord. III. *Seed, in front, with the base and apex curved inward.*

XII. Coriandrum *Tribe.* *Fruit contracted at the side and didymous or globose, with the primary and secondary ridges wingless, and often scarcely distinct.*

84. Coriándrum. *Cal.* of 5 teeth. *Pet.* obcordate, point inflexed; outer ones radiant, bifid. *Fruit* globose. *Carpels* with 5 *primary ridges*, depressed and wavy, of which the 2 lateral ones are placed in front of an accessory margin to the inner face: the 4 *secondary ridges* more prominent and carinated. *Interstices* without *vittæ*, the inner face of the carpel having 2 *vittæ*. *Seed* hollowed in front, covered by a loose membrane.—Universal involucre 0; partial *on one side.* Carpels *cohering, separated with difficulty.*—Named from κορις, a *Bug*, in allusion to the intolerably fetid smell of the bruised foliage. Sir J. E. Smith retains in this genus the *Biforis* of Spreng., which has a fruit of 2 lobes.

** *Perianth double, inferior. Petals* 5.

(*See* Staphylea *in* Ord. III.)

85. Chenopódium. *Perianth* single, inferior, 5-cleft, persistent and unaltered, closing upon, but not wholly enveloping, the *fruit. Seed* solitary, orbicular.—*Nat. Ord.* Chenopodeæ, *De Cand.*—Named from χην, χηνος, *a Goose*, and πους, *a foot;* from the shape of the leaves in some species. They are more or less employed as potherbs.

86. Béta. *Perianth* single, half-inferior, 5-cleft, persistent. *Seed* 1, reniform, imbedded in the fleshy base of the calyx.—*Nat. Ord.* Chenopodeæ, *De Cand.*—Name derived from the Celtic *bett*, according to Théis, which means *red.*

87. Sálsola. *Perianth* single, inferior, 5-cleft, persistent, enveloping the fruit with its base, and crowning it with its broad, scariose limb. *Seed* solitary, its *cotyledon* spiral.—*Nat. Ord.* Chenodopodeæ, *De Cand.*—Named from *sal*, salt. From many of this tribe abundance of alkaline salt is obtained, as implied by the name of our only British species.

88. Herniária. *Cal.* deeply 5-cleft, persistent. *Stam.*, 5 fertile and 5 sterile filaments inserted upon a fleshy disk. *Stigmas* nearly sessile. *Fruit* indehiscent, 1-seeded, covered by the calyx.—*Nat. Ord.* Paronychieæ, *St. Hil.*—Named from the plant having been supposed to be useful in the cure of *Hernia.*

89. Ulmus. *Perianth* single, superior, persistent, 4—5-cleft. *Capsule* compressed, winged all round, (a *Samara*), 1-seeded.—*Nat. Ord.* Ulmaceæ, *Mirb.*—Named, according to Théis, from the Anglo-Saxon *Elm.* *Ulm* is, however, still the German word for this tree.

(*See* Scleranthus *in* Cl. X. Polygonum *in* Cl. VIII.)

ORD. III. TRIGYNIA. 3 *Styles.*

* *Flowers superior.*

90. VIBÚRNUM. *Cal.* 5-cleft. *Cor.* of 1 petal, 5-lobed. *Berry* inferior, usually 1-seeded. (*Leaves simple.*)—*Nat. Ord.* CAPRIFOLIACEÆ, *Juss.*—Name of doubtful origin.

91. SAMBÚCUS. *Cal.* 5-cleft. *Cor.* of 1 petal, rotate, 5-lobed. *Berry* inferior, 3-or 4-seeded. (*Leaves pinnated*).—*Nat. Ord.* CAPRIFOLIACEÆ, *Juss.*—Named from σαμβυκη, a musical instrument, in the construction of which this wood is said to have been employed.

** *Flowers inferior.*

92. STAPHYLÉA. *Cal.* 5-partite, coloured, with an urceolate disk at the base. *Pet.* 5. *Styles* 2—3. *Capsule* membranaceous, of 2—3 cells.—*Nat. Ord.* CELASTRINEÆ, *Br., De Cand.* (STAPHYLEACEÆ, *Lindl.*)—Named from σταφυλη, a *bunch of grapes*, its flowers being in racemes.

93. TÁMARIX. *Cal.* 5-partite, persistent. *Cor.* of 5 petals. *Stam.* 5—10. *Stigmas* sessile, feathery. *Caps.* 1-celled, 3-valved, many-seeded. *Seeds* pappose.—*Nat. Ord.* TAMARISCINEÆ, *Desvaux.*—Named from the *Tamarisci*, a people who inhabited the banks of the *Tamaris*, now *Tambra*, in Spain, where the Tamarisk abounds.

94. CORRIGÍOLA. *Cal.* inferior, of 5 leaves, permanent. *Pet.* 5, not exceeding the calyx. *Seed* solitary, naked.—*Nat. Ord.* PARONYCHIEÆ, *St. Hil.*—Named from *corrigia*, a *strap* or *thong*; formerly applied to the *Polygonum aviculare* on account of its long pliant stems; and now to a plant which is somewhat similar to it in habit.

(*See* Chenopodium *in* ORD. II. Stellaria *in* CL. X.)

ORD. IV. TETRAGYNIA. 4 *Styles.*

95. PARNÁSSIA. *Cal.* deeply 5-cleft. *Petals* 5. *Nectaries* 5, heart-shaped, fringed with globular-headed filaments. *Capsule* 1-celled, 4-valved, each valve bearing a longitudinal, linear receptacle with numerous *seeds.*—*Nat. Ord.* DROSERACEÆ, *De Cand.* (SAXIFRAGEÆ, *Sm., Lindl.*)—Named from Mount Parnassus; to which place, indeed, the plant is by no means peculiar.

ORD. V. PENTAGYNIA. 5 *Styles.*

96. STÁTICE. *Cal.* of 1 piece, funnel-shaped, plaited, dry and membranaceous. *Pet.* 5, united at the base, bearing the stamens. *Capsule* with 1 seed invested with the calyx.—*Nat. Ord.* PLUMBAGINEÆ, *Juss.*—Named from στατιζω, to *stop*, from its supposed qualities in checking dysentery.

97. Línum. *Cal.* of 5 leaves, persistent. *Pet.* 5. *Caps.* globose, mucronate, with 10 valves and 10 cells. *Seeds* ovate, compressed.—*Nat. Ord.* Lineæ, *De Cand.*—Named from *Lin*, *thread*, in Celtic, (*Théis*); the parent of many words in Latin, English, and French.

98. Sibbáldia. *Cal.* in 10 alternately large and small segments. *Pet.* 5, inserted on the calyx. *Capsules* 5, indehiscent, in the bottom of the calyx, 1-seeded. (The number of stamens is very liable to vary, and the capsules are sometimes 10.)—*Nat. Ord.* Rosaceæ, *Juss.*—Name given in honour of *Robert Sibbald*, who wrote on the Nat. History of Scotland about the latter end of the 17th century, and who published a figure of our Scottish species of this genus.

(*See* Cerastium *and* Spergula *in* Cl. X.)

ORD. VI. HEXAGYNIA. 6 *Styles.*

99. Drósera. *Cal.* 5-cleft. *Pet.* 5. *Caps.* 1-celled, 3-valved, many-seeded.—(*Plants with leaves clothed with beautiful glandular hairs.*)—*Nat. Ord.* Droseraceæ, *De Cand.*—Name derived from δρόσος, *dew*. The glands exude a pellucid fluid, which makes this plant appear as if it were covered with dew. In Latin *Rossolis*, the same as the English *Sun-dew*.

ORD. VII. POLYGYNIA. *Many Styles.*

100. Myosúrus. *Cal.* of 5 leaves, prolonged at the base. *Pet.* 5, their *claws* tubular (nectariferous). *Capsules* indehiscent (*seeds* of most authors), 1-seeded, collected upon a very long columnar receptacle.—*Nat. Ord.* Ranunculaceæ, *Juss.*—Name, μυς, μυος, a *mouse*, and ουρα, a *tail*; from the elongated receptacle of germens or seed-vessels.

(*See* Ranunculus Ficaria *in* Cl. XIII.)

PENTANDRIA—MONOGYNIA.

1. Échium. *Linn.* Viper's Bugloss.

1. E. *vulgáre*, Linn. (*common Viper's Bugloss*); stem herbaceous simple hispid with tubercles, leaves linear-lanceolate hispid, flowers in lateral spikes, stamens longer than the corolla. *E. Bot. t.* 181. *E. Fl. v. i. p.* 268.

On old walls, fields, and waste grounds, especially in a sandy or gravelly soil: common in the Surrey hills, with pale fl. *Fl.* June, July. ♂.—2—3 f. high. *Root-leaves* spreading, petioled. *Spikes* of *flowers* lateral, secund, recurved, forming in fact one long compound spike or *raceme*. *Corolla* very beautiful, at first reddish-purple, then brilliant blue. At Duncansby, Caithness, I have seen it with white flowers, and the Rev. Prof. Henslow finds it so at Cobham, Kent. *Echium italicum* is not now considered a British plant.

2. Pulmonária. *Linn.* Lungwort.

1. P. *officinális*, Linn. (*common Lungwort*); leaves scabrous, radical ones ovato-cordate petiolate, upper ones of the stem sessile ovate. *E. Bot. t.* 118, (*excl. the root-leaves, which belong to the next species.*) *E. Fl. v. i. p.* 261.

Woods and thickets, rare. Durham, Bedfordshire; more frequent in Hampshire. Near Edinburgh and Glasgow: but scarcely wild. *Fl.* May. ♃.—About 1 foot high. *Stem-leaves* all more or less ovate, lower ones petiolate, upper ones sessile; all with short hairs and frequently spotted. *Flowers* purple.

2. P. *angustifólia*, Linn. (*narrow-leaved Lungwort*); leaves scabrous, radical ones petiolate, upper ones sessile, all lanceolate. *E. Bot. t.* 1628. *E. Fl. v. i. p.* 262.

Woods and thickets, rare. Isle of Wight, and New Forest, Hampshire; and in Flintshire. *Fl.* May, June. ♃.—Much taller than the preceding and very different in the shape of its foliage, which is seldom spotted.

3. Lithospérmum. *Linn.* Gromwell.

1. L. *officinále*, Linn. (*common Gromwell, Grey Mill or Grey Millet*); stem erect very much branched, leaves broadly lanceolate acute nerved rough above, hairy beneath, tube of the corolla as long as the calyx, nuts smooth. *E. Bot. t.* 134. *E. Fl. v. i. p.* 254.

Dry, waste and uncultivated places, and among rubbish: rare in Scotland. *Fl.* June. ♃.—1 to 1½ foot high. *Fl.* pale yellow. *Nuts* whitish-brown, highly polished; seldom more than 2 or 3 ripening in each calyx. My friend Captain Le Hunte has submitted these seeds or nuts to analysis, and obtained the following results. The stony *shells* of 60 seeds weighed upwards of 7 grains. Heated to redness, these 7 grains were reduced to 3, of which 4-10ths of a grain were pure *silica*. There was also a considerable quantity of phosphate of lime and iron.

2. L. *arvénse*, Linn. (*Corn Gromwell or Bastard Alkanet*); stem erect branched, leaves lanceolate acute hairy, calyx a little shorter than the corolla, its segments patent when containing the ripe wrinkled nuts. *E. Bot. t.* 123. *E. Fl. v. i. p.* 255.

Corn-fields and waste ground. *Fl.* May, June. ☉.—*Corollas* white. *Calycine segments* thrice as long as the fruit.

3. L. *purpuro-cæruleum*, Linn. (*creeping or purple Gromwell*); barren stems prostrate, leaves lanceolate acute, corolla much longer than the calyx. *E. Bot. t.* 117. *E. Fl. v. i. p.* 256.

Thickets in a chalky soil, rare. Near Denbigh, in Wales; and Taunton, Somersetshire; Marychurch, Devon; Darenthwood and Greenhithe, Kent; Carsewell Bay, Glamorganshire. *Fl.* June, July. ♃.—Distinguished from the 2 preceding species by its large and bright blue *flowers*.

4. L. *marítimum*, Lehm. (*Sea-side Gromwell*); stems procumbent branched, leaves rough with callous dots ovate, upper ones lanceolate, all fleshy and glaucous, nuts smooth. *Hook. Scot. i.*

p. 68. *E. Fl. v. i. p.* 256.—*Pulmonaria maritima, Linn.*—*E. Bot. t.* 368.

Sea-coast among sand or loose stones, rare, and only in the north of England: Wales, *Mr. W. Wilson:* plentiful in the north and west of Scotland. Between Portran and Skerries, Ireland, *Mr. J. T. Mackay. Fl.* May, June. ♃.—This is quite a northern plant, extending to the arctic regions: and in habit is *sui generis.* Lower *leaves* on footstalks and acute; upper ones sessile. *Flowers* somewhat racemed, of a beautiful purplish-blue: *tube* of the *cor.* short. Whole plant very glaucous; and, when the bloom is rubbed off, rough callous points are seen upon the surface, which become white and almost stony in drying, when the rest of the plant is nearly black. Mr. S. Murray has observed that the flavour of the plant resembles that of oysters.

4. Sýmphytum. *Linn.* Comfrey.

1. S. *officinále*, Linn. (*common Comfrey*); stem winged above, leaves ovato-lanceolate attenuated at the base and very decurrent. *E. Bot. t.* 817. *E. Fl. v. i. p.* 263.

Banks of rivers and watery places, frequent. *Fl.* May, June. ♃.—2—3 f. high, branched above. *Root-leaves* ovate, petiolated. *Racemes* in pairs, secund, drooping. *Corollas* large, yellowish-white, often purple.

2. S. *tuberósum*, Linn. (*tuberous-rooted Comfrey*); stem simple, leaves ovato-oblong attenuated at the base, upper ones only slightly decurrent. *E. Bot. t.* 1502. *E. Fl. v. i. p.* 263.

Shady woods and river-banks; frequent in Scotland, particularly in the lowlands: rare in England. Durham, *Mr. Robson. Fl.* June, July. ♃.—Resembling the last; but it is very distinct. Upper *leaves*, from which the *peduncles* spring, generally in pairs, large, ovato-lanceolate, a little decurrent; whereas those of *S. officinale* are very narrow, and run down into winged appendages to the stem.

5. Borágo. *Linn.* Borage.

1. B. *officinális*, Linn. (*common Borage*); lower leaves obovate attenuated at the base, segments of the corolla ovate acute spreading. *E. Bot. t.* 36. *E. Fl. v. i. p.* 264.

Among rubbish and waste ground; but scarcely indigenous. *Fl.* June, July. ♂.—Whole plant very hispid. *Stem-leaves* petiolate and eared at the base; uppermost ones sessile. *Cor.* large, brilliant blue, with very prominent *stamens.* The supposed invigorating qualities of this plant, which gave rise to the name, are now discredited. It forms an ingredient, with wine, water, lemon and sugar, in a favourite English drink called a *cool tankard.*

6. Lycópsis. *Linn.* Bugloss.

1. L. *arvénsis*, Linn. (*small Bugloss*); leaves lanceolate repando-denticulate very hispid, calyx erect while in flower. *E. Bot. t.* 938. *E. Fl. v. i. p.* 267.—*Anchusa arvensis, Lehm.*

Corn-fields and hedge-banks, frequent. *Fl.* June, July. ☉.—Whole plant very hispid; hairs or bristles seated on a white, callous tubercle. *Lower leaves* lengthened into a petiole, *upper ones* sessile, semiamplexi-

caul. *Racemes* leafy. *Flowers* small, bright blue; differing from those of *Anchusa* in the curvature of the tube.

7. Anchúsa. *Linn.* Alkanet.

1. A. *officinális*, Linn. (*common Alkanet*); leaves oblongo-lanceolate, spikes crowded unilateral, bracteas ovato-lanceolate as long as the calyx. *E. Bot. t.* 662. *E. Fl. v. i. p.* 258.

Waste ground, rare; perhaps not indigenous. On the Links at Hartley Pans, Northumberland. It is said to have been found at Kilsyth and Arnbrae; and at Addington, 8 miles from Glasgow. *Fl.* June, July. ♃.—1—2 feet high, rough and hispid. *Cor.* deep purple, the segments of the *limb* rather narrow.

2. A. *sempervírens*, Linn. (*evergreen Alkanet*); leaves ovate, lower ones upon long stalks, peduncles axillary, flowers subcapitate accompanied by two leaves. *E. Bot. t.* 45. *E. Fl. v. i. p.* 258.

Waste ground, among ruins and by road-sides, in many places both in England and Scotland: but often, I fear, the outcast of a garden;—certainly wild in Devon and Cornwall, *Rev. J. S. Tozer. Fl.* May, June. ♃.—*Flowers* of a beautiful blue. The shape of the *corolla* is, as Sir J. E. Smith observes, rather salver than funnel-shaped, and thus is with difficulty distinguishable from *Myosotis*. Daily experience teaches us that the more natural the families, the greater is the difficulty of framing decided marks of distinction in the genera.

8. Myosótis. *Linn.* Scorpion-grass.

(For the specific characters, synonyms and observations on this genus, I am indebted to my valued friend, W. Borrer, Esq.)

1. M. *palústris*, "Kiphoff," (*great Water Scorpion-grass or Forget-me-not*); fruit smooth; calyx with strait appressed bristles, when in fruit campanulate open shorter than the divergent pedicels, limb of the corolla flat longer than the tube, pubescence of the stem spreading (or wanting.) *E. Bot. t.* 1973. *Hook. Scot. i. p.* 67, (*including M. cæspitosa.*) *Reich. in Sturm, cum ic. Hook. in Fl. Lond. ed.* 2. *cum ic. E. Fl. v. i. p.* 249.—*M. scorpioides palustris, Linn. Sp. Pl. v. i. p.* 188. *Sm. Fl. Brit. v. i. p.* 212.—*M. scorpioides, Curt. Fl. Lond. fasc.* 3. *p.* 13.

Ditches and sides of rivers, abundant. *Fl.* during the summer months, ♃.—A very beautiful, though common plant, and considered to be the emblem of friendship in almost every part of Europe. About 1 foot high. *Flowers* among the largest of our species, bright blue with a yellow eye, and a small white ray at the base of each segment.—Mertens and Koch in their *Flora of Germany*, and after them Lejeune and Courtois, cite *M. laxiflora* and *M. strigulosa* of Reich., as varieties of *M. palustris*. The figure of the former, in Sturm, shows a much shorter calyx, and appressed hairs on the stem, such as are found on *M. cæspitosa*.—Perhaps *M. repens*, Don, may be specifically distinguished by the deeply divided calyx (which I pointed out long ago to Sir J. E. Smith), and the copious pubescence of that part. Its racemes are not always, although very often, leafy. Its synonyms are

M. répens, Don, MSS. "*Reichenb. in Sturm, cum ic.*"—*M. palustris*, β.

Hook. Scot. i. p. 67.—*M. palustris, β. Mert. and Koch, Germ. v. ii. p.* 42. This is found in moist situations in Scotland by *Mr. G.* and *D. Don*, and by Mr. *Backhouse*[1] in the higher parts of Yorkshire.

2. M. *cæspitósa*, Schultz, (*tufted Water Scorpion-grass*); fruit smooth; calyx with straight appressed bristles, when in fruit campanulate open shorter than the divergent pedicels, limb of the corolla concave equalling the tube, pubescence of the stem appressed. *Reich. in Sturm, cum ic. Spreng. Syst. Veget. v. i. p.* 557. *E. Fl. v. i. p.* 250. *Mertens and Koch, Germ. v. ii. p.* 242.—*Borr. in E. Bot. Suppl. t.* 2661.—*M. lingulata, Lehm. Asperif. p.* 110.

Common in watery places, both on clay and bog. *Fl.* May, June. ⊙. or ♂. (♃. or ♂. *Sm.*)—*Root* fibrous, not creeping, annual or biennial. *Stem* throwing out fibres from the lower joints. *Calyx* sparingly sprinkled with appressed, white bristles, cleft more deeply than in *M. palustris*, perhaps less than in *M. repens*, Don. *Corolla* varying in size, but usually not much exceeding the calyx.—Lehmann gives *M. lingulata* as a plant with which he was but imperfectly acquainted, and which he expected Schultz to publish with that name in the *Suppl.* to his *Fl. Stuttg.* It appears, however, in that work with the less appropriate appellation of *M. cæspitosa*. Fries had previously (*Fl. Halland.* in 1827,) called it *M. maritima;* but in his later works he has adopted the name *lingulata*.[2]

3. M. *alpéstris*, Schmidt, (*Rock Scorpion-grass*); fruit smooth; calyx with straight and a few curved bristles deeply 5-cleft, when in fruit campanulate strait shorter than the slightly spreading pedicels, limb of the corolla flat longer than the tube, root-leaves on long stalks. *Lehm. Asperif. p.* 86. *Reich. in Sturm, cum ic? Hook. in Fl. Lond. N. S. t.* 145. *Mert. and Koch, Germ. v. ii. p.* 44.—*M. rupicola, E. Bot. t.* 2559.—*M. suaveolens, Waldst. and Kit.—Willd. En. p.* 176. *Reich. in Sturm, cum ic.*—*M. alpina, Don, Herb. Brit. n.* 205.—*M. sylvatica, β. Fries, p.* 64.

Highland mountains, at a great elevation. But I am not sure that it is found, except on the Breadalbane range; extending as far as Schechallion. *Fl.* July, Aug. ♃.—4—6 inches or even a foot high, with patent *leaves*. *Lower leaves* on very long footstalks. Nothing can exceed the beauty of the large blue *flowers*, which are at first so compact as to be almost capitate, then lengthened into *racemes*. Austrian specimens have rather a larger proportion of curved bristles on the calyx than our British ones. Fries doubts if the synonyms of Mertens and Koch belong to the same species, because they, as Lehmann had done before, refer *M.*

[1] Mr. Backhouse observes to me that the bracteas among the pedicels are constant; the laciniæ of the calyx narrower and shorter than in *M. palustris*, full half as long as the calyx, and the whole plant smaller. The calyx is nerved. It flowers earlier by two months in the higher parts of Yorkshire, than *M. palustris* does in the lower. H.

[2] In the useful *Enum. Pl. Germ. et Helv.* of Steudel and Hochstetten, *M. cæspitosa* of Schultz is considered the same with *laxiflora* of Reichenb., and *M. repens* of Don is doubtfully quoted under *M. lingulata* of Schultz. Again, in the *Fl. Germ.* of Bluff and Fingerhuth, *M. laxiflora* of Reichenb., *M. repens* of Reichenb. and Don, (*commutata* of Roem. et Schultes), and *M. cæspitosa*, are retained as species, and no notice is taken of *M. lingulata*.

suaveolens, W. and K. to it. Of that plant I have seen no authentic specimens; but the figure of it in Sturm agrees better with our species, than that named *alpestris* does. Lehmann reduces to *M. alpestris*, also, the *M. lithospermifolia*, Horn. But the sample in our herbarium has more the habit and leaves of *M. cæspitosa;* although its calyx most resembles *M. alpestris.*

4. M. *sylvática*, Hoffm. (*upright Wood Scorpion-grass*); fruit smooth; calyx with spreading uncinate bristles deeply 5-cleft, when in fruit ovate (closed) shorter than the divergent pedicels, limb of the corolla flat longer than the tube, root-leaves on short dilated stalks. *Lehm. Asperif. p.* 85. *Reich. in Sturm, cum ic. Mert. and Koch, Germ. v. ii. p.* 43.—*M. scorpioides, γ. Huds. Angl. p.* 78. *Fl. Brit. v. i. p.* 213.

In dry shady places; chiefly in the North of England and Lowlands of Scotland: Essex and Kent, *Dillenius.* Holt, Norfolk, *Rev. R. B. Franeis. Fl.* June, July. ♃.—Various authors and cultivators pronounce this plant perennial, (Fries says "perennans," Wahlenberg "subperennans,") whilst the following species is indubitably annual; between which and the present individual I can point out no other distinctive characters more satisfactory than the somewhat more deeply divided calyx of *M. sylvatiea*, its shorter and less remarkably hooked bristles, the broader and flatter corolla, and the greater size of the whole plant.

5. M. *arvénsis*, Hoffm. (*Field Scorpion-grass*); fruit smooth; calyx with spreading uncinate bristles ½ 5-cleft, when in fruit ovate closed shorter than the divergent pedicels, limb of the corolla concave equalling the tube. *Lehm. Asperif. p.* 90. *Hook. Scot. i. p.* 67, (*excl. syn.*) *Borr. in E. Bot. Suppl. t.* 2629.—*M. intermedia, Link, Enum. v. i. p.* 164. *Reich. in Sturm, cum ic.*—*M. scorpioides, α. arvensis, Linn. Sp. Pl. p.* 188. *Fl. Brit. p.* 212.

Very common in cultivated ground, hedgebanks, groves, &c. *Fl.* June, Aug. ☉.—Although Linnæus included other plants, now regarded as species, in his ideas of *M. scorpioides* and *arvensis*, and even preserved as such in his herbarium a specimen of the next species, yet, as it is evident from *Fl. Suec.* that this is what he held to be the type of the *var.*, I think it best to follow those botanists who have named it *M. arvensis.* Fries asserts that every Swedish botanist knows it to be the "ipsissimam *M. arvensem*, Linn." It is moreover the only one usually found in cultivated fields. This species and *M. sylvatica* are inextricably confounded in *E. Fl.*—*M. arvensis, With.* (and probably *M. arvensis, α. Willd. Sp. Pl.*) includes this species and *M. sylvatica* and *M. versieolor.*—*M. arvensis, β. Willd.* is doubtless the same as *M. versicolor, γ.* Lehm., and a stranger to the British Flora.

6. M. *collína*, Hoffm. (*early Field Scorpion-grass*); fruit smooth; calyx with spreading uncinate bristles, when in fruit ventricose open equalling the diverging pedicels, limb of the corolla concave shorter than the tube, (raceme usually with one distant flower at the base.) *Reich. in Sturm, cum ic. Borr. in E. Bot. Suppl. sub fol.* 2629.—

M. arvensis, Link, Enum. v. i. p. 64. *E. Bot. t.* 2558. *E. Fl. v. i. p.* 252.—*M. arvensis, γ. Wahl. Fl. Suec. v. i. p.* 120. (*excl. syn.*)—*M. hispida,* "*Schlecht.*" *Mert. and Koch, Germ. v. ii. p.* 47.

On sandy-banks, wall-tops, and other very dry places. Near Edinburgh, *Dr. Greville. Fl.* April, May; usually quite dried up by midsummer. ⊙.—This is not a general plant, and appears to have been unknown to Lehmann. Reichenbach in Sturm cites under it *M. verna*, Opitz, a plant referred by Mertens and Koch to the *M. stricta*, Link, to which our N. American specimens named *M. verna* by Nuttall, seem to belong. It does not appear evident that *M. stricta* has been found in Britain, and I know not why Reichenbach has fixed on it as the *M. arvensis* of Sibthorpe. It is the *M. scorpioides arvensis, Ehrh. Herb. n.* 41, in Sir J. E. Smith's copy; and Smith himself, no doubt, alludes to that identical specimen, when he says that his own *M. arvensis* has sometimes several axillary flowers. There is almost always, in British specimens, one distant flower at the base of the primordial raceme only. Reichenbach, Bluff, and (if Mertens and Koch be right as to Hoffman's *M. collina*) Hoffman, refer to *M. collina*, Ehrh.,—(that is to his *M. scorpioides, collina*) as the present plant. Now, the *M. scorpioides collina*, in Sir J. E. Smith's copy of Ehrhart, is *M. versicolor;* but it is very possible that Ehrhart may have confounded the two plants, and given our true *collina* in some of his sets. If otherwise, the present species should bear the name of "*M. hispida*, Schlechtendal;" though *præcox* or *fugax* would be more applicable as specific designations.

7. M. *versicolor*, Lehm. (*yellow and blue Scorpion-grass*); fruit smooth; calyx with spreading uncinate bristles, when in fruit oblong (closed) longer than the almost erect pedicels, limb of the corolla concave shorter than the exserted tube. *E. Bot. t.* 2558, (*ad calc.*) *Reich. in Sturm, cum ic.* (minus bona.) *E. Fl. v. i. p.* 253.—*M. arvensis, γ. versicolor, Pers. Syn. v. i. p.* 156.—*M. arvensis, β. minor, Roth, Germ. v. ii. p.* 223.—*M. scorpioides, collina, Ehrh. Pl. Exsicc. n.* 51, (according to Smith's copy).—*M. scorpioides, β. Huds. Angl. p.* 78. *Sm. Fl. Brit. p.* 212. *E. Bot. t.* 480. (fig. sinist.)—*M. scorpioides, γ. Linn. Sp. Pl. p.* 189.

Common in wet meadows, &c. as well as dry places; hence varying much in height. *Fl.* Apr. June. ⊙.—Lehmann quotes "*M. versicolor, Herb. Ehrh.*" as well as "*M. collina, Ehrh. Herb.*" Among Sir J. E. Smith's specimens, I found *M. versicolor*, as *M. scorp. collina*, but no specimens of Ehrhart named *versicolor*.—Wallroth (Sched. Crit. p. 72,) joins *M. versicolor* and *M. stricta*, Link, under the name of *M. collina*, Ehrh.; and adds a var. *β. simplex*, Pers., to which he cites *M. pusilla*, Loisel. and Rœmer and Schultes as synonyms. Mr. Bentham's specimens in our herbarium of *M. pusilla*, are very near to *M. stricta*, but appear different in habit, and have very few hooked bristles, but abundance of straight ones, on the calyx. *M. versicolor* is distinguishable at once from *M. stricta*, (which is *M. versicolor, β.* Lehm.) by its stalked racemes. In *M. stricta*, the flowers begin among the leaves, sometimes from the very base of the stem; I believe, too, that none of them are yellow, and that they have a much shorter tube. Lehmann says that

the blossoms of *M. versicolor* retain unchanged their respective colours. Fries asserts the contrary. I have not attended to this point, but, certainly, it is always the upper, consequently the younger flowers, that are yellow.

9. Asperúgo. *Linn.* Madwort.

1. A. *procúmbens*, Linn. (*German Madwort*). *E. Bot. t.* 36. *E. Fl. v. i. p.* 263.

Waste places in the north: Durham. About Dunbar, and near Edinburgh. Purfleet; *Mr. Alchorne. Fl.* June, July. ⊙.—*Stems* procumbent, angular, rough with short hooked prickles. *Leaves* oblongo-lanceolate, solitary or opposite, or 3—4 nearly from the same point of the stem, lower ones petiolate, all rough and slightly hispid. *Flowers* blue, axillary, solitary. *Peduncles* short, at first erect, then curved downward. *Cal.* small, much enlarged in fruit.

10. Cynoglóssum. *Linn.* Hound's-tongue.

1. C. *officinále*, Linn. (*common Hound's-tongue*); stem-leaves lanceolate attenuate at the base sessile downy, stamens shorter than the corolla. *E. Bot. t.* 921. *E. Fl. v. i. p.* 260.

Waste grounds and by road-sides; less frequent in Scotland. *Fl.* June, July, ♂.—Whole plant soft to the touch, dull green, of a fetid smell; often 2 feet high. Lower *leaves* on long footstalks. *Flowers* purplish-red. *Fruit* very rough.

2. C. *sylváticum*, Hænke, (*green-leaved Hound's-tongue*); stem-leaves lanceolate broad at the base shining sessile slightly hairy and scabrous especially beneath, stamens shorter than the corolla. *E. Bot. t.* 1642. *E. Fl. v. i. p.* 266.

Rare, shady places, by road-sides, &c. in the middle and east of England. Carse of Gowrie in Scotland, *G. Don.* Near Balbriggan, Ireland, *Dr. Scott. Fl.* June, July, ♂.—Distinguished readily from the last by its more or less shining and brighter-coloured *leaves*, free from pubescence, and their different figure. *Root-leaves* ovato-lanceolate, on very long footstalks.

11. Anagállis. *Linn.* Pimpernel.

1. A. *arvénsis*, Linn. (*scarlet Pimpernel or Poor Man's Weatherglass*); leaves ovate sessile dotted beneath, margin of the corolla crenate piloso-glandulose. *E. Bot. t.* 529. *E. Fl. v. i. p.* 280.—*β. cærulea*; margins of the corolla toothed scarcely at all glandulose. *A. cærulea, Schreb.—E. Bot. t.* 1823. *Hook. in Fl. Lond. N. S. E. Fl. v. i. p.* 280.

Corn-fields, frequent. *β.* not rare in similar situations. *Fl.* June, July. ⊙.—*Flowers* generally bright scarlet, sometimes blue, and Mr. John Dillwyn has found at Penllegare, S. Wales, specimens with the flowers of a clear white, with a small, well-defined, bright purplish-pink eye in the centre of every corolla. The Rev. Professor Henslow has proved, by cultivation from seed, that *A. cærulea* and *A. arvensis* are varieties of the same.

2. A. *tenélla*, Linn. (*Bog Pimpernel*); stem creeping filiform,

leaves ovate or roundish stalked. *E. Bot. t.* 530. *E. Fl. v. i. p.* 281.

Wet mossy bogs; frequent in England, more rare in Scotland. *Fl.* July, Aug. ♃.—A beautiful little plant, as are all of this Genus:—2—4 inches long. *Leaves* small. *Flowers* large in proportion to the size of the plant, on rather long footstalks. *Cor.* subcampanulate, pink or rose-coloured.

12. Lysimáchia. *Linn.* Loosestrife.

1. L. *vulgáris*, Linn. (*great yellow Loosestrife*); leaves ovato-lanceolate opposite or ter-quaternate, panicle many-flowered terminal. *E. Bot. t.* 761. *E. Fl. v. i. p.* 277.

Sides of rivers and wet shady places: less frequent in Scotland. *Fl.* July. ♃.—Erect, 2—3 feet high. *Leaves* nearly sessile, glabrous or downy beneath. *Panicle* large, leafy, much branched. *Corollas* large, yellow, handsome.

2. L. *thyrsiflóra*, Linn. (*tufted Loosestrife*); leaves opposite lanceolate, racemes many-flowered stalked lateral. *E. Bot. t.* 176. *E. Fl. v. i. p.* 278.

Wet marshes and water-sides, very rare in England; Yorkshire, Hertfordshire and Anglesea. More frequent in Scotland: near Forfar, and at Duddingston Loch on the east; Canal-side near Possil, and near Rossdhu, by Loch Lomond: in the former place most abundant and growing in the water. *Fl.* July. ♃.—1—2 feet high. *Flowers* numerous, small, collected into dense, axillary, peduncled *racemes*. Number of the parts of the flower very variable. *Cor.* deeply cut into very narrow segments, yellow, and as well as the *cal.* spotted with orange.

3. L. *punctáta*, Linn. (*four-leaved Loosestrife*); erect, downy, leaves ovato-lanceolate whorled petiolate, peduncles 1-flowered whorled axillary. *Roem. et Schultes, Syst. Veget. v. iv. p.* 125. *Jacq. Austr. v. iv. t.* 366.

Moist banks of rivers, rare. Discovered by the late *Mr. Nathan Backhouse*, in 1803, on the margins of the Skern, north of Darlington, most frequent on the west side of the river, both above and below the rail-way bridge. *Fl.* July. ♃.—Habit of *L. vulgaris:* erect, with whorled leaves, 4—5 in a *whorl.* Whole plant downy. *Leaves* sometimes dotted, not so in my specimens from Germany. *Flowers* in *whorls*, on stalks each bearing a single blossom, yellow, dotted with deeper colour. This species had long lain in the herbarium of Mr. Backhouse, under the name of *L. vulgaris:* but on examining it with a little attention, Mr. James Backhouse soon determined it to be the *L. punctata*, and kindly communicated the particulars respecting it to me. It will probably, ere long, be found in other situations.

4. L. *Némorum*, Linn. (*yellow Pimpernel, or Wood Loosestrife*); leaves ovate acute, stem creeping, peduncles 1-flowered solitary, calycine segments linear-subulate, stamens smooth. *E. Bot. t.* 527. *E. Fl. v. i. p.* 278.

Woods and shady places, frequent. *Fl.* during the summer months. ♃.

5. L. *Nummulária*, Linn. (*creeping Loosestrife, Money-wort or Herb-Twopence*); leaves subcordate obtuse, stem prostrate, peduncles 1-flowered solitary, calycine segments ovate acute, filaments glandular. *E. Bot. t.* 528. *E. Fl. v. i. p.* 279.

Shady places and pastures. *Fl.* June, July. ♃.

13. Cýclamen. *Linn.* Sow-bread.

1. C. *hederæfólium*, Willd. (*Ivy-leaved Cyclamen or Sow-bread*); "leaves heart-shaped angular finely toothed their ribs and footstalks roughish." *E. Fl. v. i. p.* 273.—*Cyclamen europæum*, *E. Bot. t.* 548.

On a bank at Bramfield, Suffolk, *D. E. Davy, Esq.*; scarcely indigenous. *Fl.* Apr. ♃.—*Leaves* springing from the top of the large, tuberous *root*. *Cor.* white or flesh-coloured. *Scapes* spirally twisted after flowering, so as to bury the *seed-vessels* in the earth.

14. Prímula. *Linn.* Primrose.

1. P. *vulgáris*, Huds. (*common Primrose*); leaves toothed wrinkled, scape single-flowered, limb of the corolla flat. *E. Bot. t.* 4. *E. Fl. v. i. p.* 270.—*P. veris*, γ. *acaulis*, *Linn.*—*Henslow.*

Woods, hedge-banks and pastures, abundant. *Fl.* April, May, and till June on the mountains of Scotland. ♃.—If the *scapes* are traced to their very base, they will be found to spring from one common point and to constitute a sessile *umbel*.

2. P. *elátior*, With. (*Oxlip Primrose*); leaves toothed wrinkled contracted below the middle, scape umbellate, limb of the corolla flat. *E. Bot. t.* 513. *E. Fl. v. i. p.* 270.—*P. veris*, β. *elatior*, *Linn.*—*Henslow.*

Woods and thickets, not common: still rarer in Scotland. About Dublin, *Mr. J. T. Mackay*. *Fl.* Apr. May. ♃.—Mr. Wilson finds specimens of this with some *scapes* bearing solitary *flowers* and others umbellate: so that whatever may be thought of the following species, this cannot be considered really distinct from *P. acaulis*.

3. P. *véris*, Linn. (*common Cowslip or Paigle*); leaves toothed wrinkled contracted below the middle, scape umbellate, calycine teeth obtuse, limb of the corolla concave. *E. Bot. t.* 5. *E. Fl. v. i. p.* 271.—*P. veris*, α. *officinalis*, *Henslow.*

Meadows and pastures, frequent in a clayey soil in England; very rare in Scotland. Near Edinburgh. Introduced about Glasgow, *Hopkirk*. *Fl.* Apr. May. ♃.—Various are the opinions respecting the above 3 *Primulas*, as to the permanence of their specific characters. Professor Henslow has seen them all produced from the same root: and thus, in his useful little *Catalogue of British Plants arranged according to the Nat. System*, has reduced them to *vars.* of *P. veris*, as Linnæus had done. Few plants are, however, more constant to the characters here laid down than these are, as generally seen growing in their wild stations. They rarely are found intermixed—and in Scotland the two last kinds are scarcely known. Some are of opinion that the *P. elatior* is a hybrid between

the other two: but Mr. H. F. Talbot found, upon the summit of a high mountain, near the Lake of Thun, in Switzerland, *P. elatior* in abundance, while *P. veris* was confined to the *base* of the hill, and *P. vulgaris* was not found within 50 miles of it.

4. P. *farinósa*, Linn. (*Bird's-eye Primrose*); leaves obovato-lanceolate mealy crenulated, calyx oblongo-ovate, limb of the corolla plane its mouth obscurely glandular, the segments obcordate attenuated at the base distant "nearly as long as the tube." *E. Bot. t.* 6. *E. Fl. v. i. p.* 272.

Mountainous pastures in the north of England, especially Yorkshire, not unfrequent. Very rare in Scotland; only seen, I believe, south of Edinburgh: the stations given in *Fl. Scotica* all belonging to the following species. Not found in Ireland. *Fl.* June, July. 4.—One of the most elegant of plants, scarcely yielding in beauty to the next species. The powdery substance on the leaves, scape, and calyx has a musky smell. *Flowers* pale lilac-purple, with a yellow eye.

5. P. *scótica*, Hook. (*Scottish Primrose*); leaves obovato-lanceolate mealy denticulate, calyx ventricose, limb of the corolla flat its mouth glandular, the segments broadly obcordate approximate "half the length of the tube." *Hook. in Fl. Lond. N. S. t.* 133. *E. Fl. p.* 272, (excluding the syn. *P. stricta.*) *Hook. in E. Bot. Suppl. t.* 2608.

North coast of Caithness, discovered by *Mr. W. Gibb* of Inverness. Frequent also on the north coast of Sutherland, and in the Orkney Islands; growing upon the sandy shores. *Fl.* July. 4.—A most distinct and rare species of Primrose, not half the size of the preceding, but with a stouter habit. *Flowers* deep bluish-purple, with a yellow eye. In *P. farinosa*, the *germen* is broadly obovate and the *stigma* capitate: here the *germen* is globose, and the *stigma* with 5 points. Dr. Graham first observed the difference in the relative length of the segments of the corolla, a character which he thinks may be advantageously employed in distinguishing other allied species of *Primula*. This has no affinity with *P. stricta* of Hornemann, to which Smith, though doubtfully, referred it; nor have I seen specimens from any country save those just-mentioned.

15. Hottónia. *Linn.* Water-Violet.

1. H. *palústris*, Linn. (*common Water-Violet or Featherfoil*); flowers whorled on a long solitary cylindrical stalk, corolla longer than the calyx, leaves pectinated. *E. Bot. t.* 364. *E. Fl. v. i. p.* 276.

Ditches and pools in England: not found in Scotland. Downpatrick, Ireland, *Mr. J. T. Mackay*. *Fl.* June. 4.—*Root* creeping. *Leaves* all submerged. *Flowers* large, handsome, pale purple, rising above the water.

16. Menyánthes. *Linn.* Buckbean.

1. M. *trifoliáta*, Linn. (*common Buckbean or Marsh Trefoil*). *E. Bot. t.* 495. *E. Fl. v. i. p.* 274.

Marshy places, boggy ground, &c. frequent. *Fl.* June, July. 4.—*Roots* densely creeping and matted, so as often to render the boggy

ground firm where the plant grows. *Leaves* ternate, stalked: *leaflets* obovate, obscurely toothed. The base of the leaf is sheathing, whence arises a *flowerstalk* supporting a compound *raceme* or *thyrsus*, of many white *flowers*, tipped externally with red and beautifully fringed with white filaments within.—In the Highlands of Scotland, employed as tea, it is considered to strengthen weak stomachs. It cures the disease called *darn* in cattle; and is sometimes used as a substitute for hops, (*Mr. Gibb.*) All these qualities indicate the bitter principle which abounds so much in the *Gentian tribe*.

17. Villársia. *Vent.* Villarsia.

1. V. *nymphæoídes*, Vent. (*Nymphæa-like Villarsia*); leaves orbiculari-cordate floating, peduncles aggregate single-flowered, corollas ciliated. *Hook. in. Fl. Lond. N. S. t.* 168.—*Menyanthes nymphæoides, Linn.—E. Bot. t.* 217. *E. Fl. v. i. p.* 275.

Rare; in rivers and still waters. In the Thames. Abundant in the canal near Downham Market and Wisbeach. In Yorkshire.—*Fl.* July, Aug. ♃.—A beautiful plant, easy of cultivation, and difficult to be eradicated. *Flower* large, yellow, curiously plaited. The canals in Holland are sometimes covered with this plant, which has quite a different habit from the true *Menyanthes*. *Stigma* 5-cleft. The ripe *fruit* I have not seen. Mr. Brown says that in the *aquatic* species of this genus, the *capsule* is valveless; 2-valved in the others.

18. Erythræa. *Renealm*, Centaury.

1. E. *Centaúrium*, Pers. (*common Centaury*); stem nearly simple, leaves ovato-oblong, flowers sessile (or nearly so) fasciculato-paniculate, calyx half as long as the tube of the corolla. *Hook. Scot. i. p.* 79. *E. Fl. v. i. p.* 320.—*Chironia Centaurium, Curt.—E. Bot. t.* 417.—*Gentiana Centaurium, Linn.*

Dry pastures, frequent. *Fl.* July, Aug. ⊙.—8—10 inches to a foot high. *Root-leaves* spreading, three-nerved, broader than those of the stem, which are in distant pairs. *Panicles* of *flowers* fascicled near the top of the stem, and forming a sort of *corymb*. *Corolla* handsome, rose-coloured.

2. E. *pulchélla*, Hook. (*Dwarf branched Centaury*); stem much branched, leaves ovato-oblong, flowers pedicellate in lax panicles, calyx nearly as long as the tube of the corolla. *Hook. Scot. i. p.* 79. *E. Fl. v. i. p.* 322.—*Chironia pulchella, Willd.—E. Bot. t.* 458.—*C. pulchella, β. Duby, Bot. Gall. p.* 328.—*Gentiana pulchella, Swartz.—G. Centaurium, β. Linn.*

Sandy sea-shores; England and Scotland. Cape Clear Island, Ireland, *Mr. Drummond. Fl.* Aug. Sept. ⊙.—*Stems* 2—4 or 6 inches high, slender and much branched from near the base. *Panicle* spreading, leafy, dichotomous, with a single flowerstalk between the branches.—Probably only a *var.* of the preceding.

3. E. *littorális*, Hook. (*Dwarf tufted Centaury*); stem simple or branched, leaves ovato-oblong, flowers sessile capitato-paniculate,

calyx as long as the tube deeply cleft. *Hook. Scot. i. p.* 80. *E. Fl. v. i. p.* 320.—*Chironia littoralis, Turn. and Dillw. Bot. Guide, p.* 469. *E. Bot. t.* 2305.—*C. pulchella, Don, Fl. Brit. Fasc. i. n.* 7.

Sandy coasts of Northumberland, Lancashire, Wales, Scotland. Portmarnock sands, Ireland, *Mr. J. T. Mackay.* *Fl.* June, July. ⊙.—Varying in height from 2—6 inches. *Leaves* all narrow. *Cal.* segments very long, in my specimens scarcely united by a membrane as in the 2 preceding species, as long as the tube of the corolla: but most of the characters given for this species, are said by Mr. Turner, its founder, to vary in individuals he has seen: and I fear it has little right to be kept distinct from *E. Centaurium.* Mr. Wilson finds many specimens which cannot be referred to either, owing to differential marks as slight as those attributed to this and the preceding one.

4. E. *latifólia,* Sm. (*broad-leaved tufted Centaury*); stem 3-cleft at the top, flowers in dense forked tufts, calyx as long as the tube, segments of the corolla lanceolate, lower leaves broadly elliptical with 5 or 7 ribs. *E. Fl. v. i. p.* 321.—*Chironia Centaurium, var.* 2. *Sm. Fl. Brit. p.* 1393.

Sea-shore of Lancashire: sandy ground near the sea, to the north of Liverpool, *Dr. Bostock* and *Mr. Shepherd,* 1803; (*Sm.*). Near Holyhead, *Mr. W. Wilson.* County of Down, Ireland, *Mr. T. Drummond.* Isle of Staffa, *Rev. G. Gordon.* *Fl.* July. ⊙.—This has more the *appearance* of a species than either of the two last. Some of my Irish specimens have the *leaves* an inch and a half long, and ¾ of an inch broad, not confined to the root, and rising one pair close above the other. Yet I can hardly persuade myself it is distinct from the first species, *E. Centaurium.*

19. Datúra. *Linn.* Thorn-apple.

1. D. *Stramónium,* Linn. (*common Thorn-apple*); herbaceous, leaves ovate angulato-sinuate glabrous, fruit ovate erect clothed with numerous nearly equal spines. *E. Bot. t.* 1288. *E. Fl. v. i. p.* 314.

Waste ground in England, in the neighbourhood of gardens or towns, not indigenous. *Fl.* July. ⊙.—The narcotic qualities of this plant are well known. The *capsule* has 4 cells below, and is divided by four dissepiments of which two only reach the top: hence the summit is 2-celled.

20. Hyoscýamus. *Linn.* Henbane.

1. H. *níger,* Linn. (*common Henbane*); leaves amplexicaul sinuated, flowers nearly sessile. *E. Bot. t.* 591. *E. Fl. v. i. p.* 315.

Waste places, especially in a chalky soil; often near towns and villages. *Fl.* July. ⊙.—*Stem* much branched, rounded. Whole plant covered with unctuous fetid hairs. *Leaves* subovate. *Calyx* veined, as is the large dingy yellow *corolla,* with purplish-brown lines; its tubular part swells and firmly encloses the *capsule,* of which the upper part falls off like a lid. *Plant* highly narcotic.

21. Atropa. *Linn.* Dwale.

1. A. *Belladónna*, Linn. (*common Dwale, or deadly Nightshade*); stem herbaceous, leaves ovate undivided, flowers axillary on short peduncles. *E. Bot. t.* 592. *E. Fl. v. i. p.* 316.

Hedges and waste places, especially among ruins and near towns. *Fl.* June. ♃.—3 feet and more high. *Leaves* entire, some very large, but placed in pairs of unequal sizes. *Flowers* drooping, lurid purple. *Berries* shining, black, highly injurious when taken internally. Their effects are said to be best counteracted by drinking plentifully of vinegar.

22. Solánum. *Linn.* Nightshade.

1. S. *Dulcamára*, Linn. (*woody Nightshade or Bittersweet*); stem without thorns shrubby climbing, leaves cordate, upper ones hastate, corymbs drooping inserted opposite the leaves. *E. Bot. t.* 365. *E. Fl. v. i. p.* 317.

Moist hedges and thickets: not common in Scotland. About Dublin, *Mr. J. T. Mackay*. *Fl.* June, July. ♄.—*Flowers* purple with 2 green tubercles at the base of each segment. *Anthers* large, yellow, united into a pyramidal or cone-shaped figure.—This has been much employed in medicine, especially in rustic practice. A hairy *var.* is mentioned by Ray, as growing on the southern coast of England.

2. S. *nígrum*, Linn. (*common or Garden Nightshade*); stem without thorns herbaceous, leaves ovate bluntly toothed and waved, umbels lateral drooping. *E. Bot. t.* 566. *E. Fl. v. i. p.* 318.

Waste places, fields, &c. frequent. *Fl.* June—Sept. ☉.—*Flowers* white. *Berries* globose, black.

23. Verbáscum. *Linn.* Mullein.

1. V. *Thápsus*, Linn. (*great Mullein*); leaves decurrent woolly on both sides, stem simple, spike of flowers very dense, 2 stamens longer glabrous. *E. Bot. t.* 549. *E. Fl. v. i. p.* 308.

Banks and waste ground, in a light, sandy, gravelly or chalky soil. *Fl.* July, Aug. ♂.—*Stem* 4—5 feet high, angular, winged. *Leaves* thick, excessively woolly, ovate or oblong. *Spike* long, cylindrical. *Flowers* handsome, golden-yellow, when dried in the sun, giving out a fatty matter used in Alsace as a cataplasm in hæmorrhoidal complaints. 3 of the *stamens* hairy; 2 longer ones glabrous.

2. V. *Lychnítis*, Linn. (*white Mullein*); leaves oblong wedge-shaped nearly glabrous above, stem angular and panicled. *E. Bot. t.* 58. *E. Fl. v. i. p.* 309.

Road-sides, pastures, and fields, especially in a chalky soil. On clay-slate, near Truro, *Rev. J. S. Tozer*. *Fl.* July, Aug. ♂.—*Flowers* numerous, rather small, cream-coloured. *Leaves* below very woolly. *Stamens* hairy.

3. V. "*thapsifórme*, Schrad." (*Thapsus-like Mullein*;) "stem simple, leaves lanceolato-ovate, raceme spiked dense, bracteæ longer than the woolly calyx, segments of the corolla obovate rounded,

2 anthers oblong. *D. C.*" *Lindl. Syn. p.* 181. "*V. thapsoides, Willd.*"

" By road-sides in Kent. *Fl.* July, Aug. ♂." *Lindley.*

4. V. *pulveruléntum*, Vill. (*yellow hoary Mullein*); leaves ovato-oblong subserrated pulverulento-tomentose on both sides, stem rounded panicled. *E. Bot. t.* 487. *E. Fl. v. i. p.* 310.

Roadsides on a gravelly or chalky soil: frequent in Norfolk and Suffolk. Den near Cullen, Scotland, *Mr. Maughan.* *Fl.* July. ♂.—Remarkable for the mealy down on the *leaves*, which is easily removed from the surface. *Flowers* large, handsome. If the plant be struck suddenly and violently, the expanded corollas will in a short time fall off, and the calyx will close over the germen. (*Sm.*)

5. V. *nígrum*, Linn. (*dark Mullein*); leaves oblongo-cordate petioled crenate, subpubescent. *E. Bot. t.* 59. *E. Fl. v. i. p.* 311.

Banks and way-sides, particularly in a gravelly or chalky soil. Rare in Scotland. Between Seton and Gosford, *Dr. Yule.* Banks of the Esk, and Borthwick Castle, *Mr. Maughan.* *Fl.* July, Aug. ♃.—*Leaves* nearly glabrous, dark green. *Flowers* in clusters on the almost simple long spike. *Cor.* rather large, yellow. *Stam.* with bright purple hairs.

6. V. *virgátum*, With. (*large-flowered Primrose-leaved Mullein*); " leaves ovato-lanceolate toothed sessile, radical ones downy somewhat lyrate, stem branched, flowers aggregate partly sessile." *E. Bot. t.* 550. *E. Fl. v. i.* 311.

Fields, and by road-sides, rare. Field near Wrexham, *Mrs. Nash*; from whose garden at Beven near Worcester, it is presumed to have established itself in the neighbourhood. (*Sm.*). Near Plymouth, *Mr. Banks.* *Fl.* Aug. ♂.—Allied to the following.

7. V. *Blattária*, Linn. (*Moth Mullein*); leaves amplexicaul crenate oblong glabrous radical ones sinuate, upper ones acuminate, flowers stalked remote collected into an elongated branched raceme. *E. Bot. t.* 393. *E. Fl. v. i. p.* 312.

Banks in a gravelly soil, rare. In several places in Kent, (whence specimens have been sent to me, from Cobham, by *the Rev. Prof. Henslow*); and not unfrequent in Devonshire and Cornwall. Near Plymouth; *Mr. Banks.* *Fl.* July. ⊙.

(Thames' side near Walton, is mentioned to me as a station for the *V. ferrugineum* and apparently wild, by *J. S. Mill, Esq.*)

24. Convólvulus. *Linn.* Bindweed.

1. C. *arvénsis*, Linn. (*small Bindweed*); stem climbing, leaves sagittate their lobes acute, peduncles mostly single-flowered, bracteas minute distant from the flowers. *E. Bot. t.* 312. *E. Fl. v. i. p.* 284.

Corn-fields, hedges, &c. especially in a light soil. *Fl.* June, July. ♃.—*Flowers* rather small, rose-coloured. *Root* running very deep into the ground and difficult of extirpation.

2. C. *sépium*, Linn. (*great Bindweed*); stem climbing, leaves sagittate their lobes truncate, peduncles 4-sided single-flowered,

bracteas large heart-shaped close to the flower. *E. Bot. t.* 313. *E. Fl. v. i. p.* 284.—*Calystegia, Br.*

Moist woods and hedges. *Fl.* July, Aug. ♃.—Much larger than the last in every part. *Flowers* very large, showy, pure white.

3. C. *Soldanélla*, Linn. (*Sea-side Bindweed*) ; stem prostrate, leaves reniform fleshy, peduncles 4-sided single-flowered their angles winged, bracteas large ovate close to the calyx. *E. Bot. t.* 314. *E. Fl. v. i. p.* 285.—*Calystegia, Br.*

Sea-shore in sandy places, frequent. *Fl.* June—Aug. ♃.—*Root* long, creeping. *Flowers* few, large, rose-coloured. *Capsules* 1-celled.

25. Polemónium. *Linn.* Jacob's Ladder.

1. P. *cæruleum*, Linn. (*blue Jacob's Ladder*) ; leaves pinnated glabrous, leaflets oblongo-lanceolate, flowers erect. *E. Bot. t.* 14. *E. Fl. v. i. p.* 286.

Banks and bushy places, rare ; chiefly found in the north. In Derbyshire and Yorkshire. About Queensferry, Arniston and Delvine woods, Scotland. Knockmaron Hill, Ireland, *Mr. J. T. Mackay. Fl.* June. ♃.—1—2 feet high. *Stem* angular. *Flowers* large, blue, sometimes white.

26. Azálea. *Linn.* Azalea.

1. A. *procúmbens*, Linn. (*trailing Azalea*). *E. Bot. t.* 865. *E. Fl. v. i. p.* 282.—*Chamæledon, Link.—Loiseleuria, Desvaux.*

Dry moory ground, on most of the Scottish Highland mountains, among grass and moss: especially abundant in the north ; and nowhere perhaps more plentiful than on the Cairngorum range, where it forms large dark green patches. *Fl.* May, June. ♄.—A low *shrub*, with very woody tortuous *stems*, and crowded leafy branches. *Leaves* small, almost like those of *Thyme*, but quite smooth and glossy above, rigid, channelled, their margins remarkably revolute ; midrib below broad and prominent. *Flowers* in short terminal *racemes*. *Pedicels* with short ovate *bracteas* at the base, swollen upwards. *Cal.* deeply 5-sometimes 6-partite, purple, segments oblong, fleshy. *Corolla* flesh-coloured, subcampanulate, with 5 oblong, moderately spreading, sometimes unequal, obtuse *segments*. *Stamens* inserted upon a fleshy disk or base to the germen, a little shorter than the corolla. *Anthers* of 2 oval *cells*, opening distinctly by a longitudinal fissure, lead-coloured. *Germen* upon a fleshy base or disk scarcely broader than itself, ovate, 2-or 3-celled. *Style* about equal to it in length ; *stigma* capitate, obscurely lobed. *Capsule* broadly ovate, with a somewhat spongy coat, purplish-brown, opening by 2 or 3 valves, according as the cells are 2 or 3 ; the margins of the valves entering into the capsule and thus forming the dissepiments: again each valve is deeply cleft ; so that on looking at the upper half of an open capsule we find 4 or 6 valves or segments, each having *one* of its sides introflexed, to form (with the introflexed side of the neighbouring segment) a dissepiment of a double plate. *Seeds* fixed to 2 or 3 lobes of a central, at length (when the valves open) free column or *receptacle*, oval, pale brown, dotted.

I have been the more particular in my description of this plant, because

the accounts of authors are at variance. Smith says that he has never seen the anthers burst longitudinally: but nothing can be more clear than the opening of their cells by a fissure, as long as the cell. The same author, too, and even Mr. Don, whose description in most other particulars (*see Ed. Phil. Journ. v.* vi. *p.* 48.) is very accurate, say that the capsule is 5-celled, 5-valved, the valves cloven. I find both in the germen and in the capsule only 2 or 3 cells, as figured by Gærtner, and the same structure in the rest of the fruit as is so well described by that admirable carpologist.—It was upon this species that Linnæus founded the Genus *Azalea*. The other *Azaleas* are now properly referred to *Rhododendron* by Mr. Don, as was suggested many years ago by Mr. Salisbury. *A. procumbens* abounds in the Arctic Regions of, I believe, the whole northern hemisphere. It is found in America, as far south as the White Mountains of New Hampshire. My friend Dr. Boott gathered it on Mount Washington of that range: and it is extremely plentiful on the higher parts of the Rocky Mountains. With us it is not seen either in England, or in Ireland.

27. Vínca. *Linn.* Periwinkle.

1. V. *mínor*, Linn. (*lesser Periwinkle*); stem procumbent, leaves oblongo-lanceolate their margins as well as the small lanceolate teeth of the calyx glabrous. *E. Bot. t.* 917. *E. Fl. v. i. p.* 338.

Hedges and banks in woods; decidedly wild in Devon, with blue and white fl. *Rev. J. S. Tozer. Fl.* May, June. ♃.—Wood of the shoots very tough; not so in the following species.

2. V. *májor*, Linn. (*greater Periwinkle*); stem suberect, leaves ovato-cordate their margins as well as those of the elongated subulate segments of the calyx ciliated. *E. Bot. t.* 514. *E. Fl. v. i. p.* 339.

Woods and thickets: not wild. *Fl.* May. ♃.—Twice the size of the former in all its parts. *Corolla* mostly purple in both, but varying in intensity. The *anthers*, *stigma*, and *fruit* (a *follicle*) are highly curious in this genus.

28. Sámolus. *Linn.* Brook-weed.

1. S. *Valerándi*, Linn. (*Brook-weed or Water Pimpernel*); leaves obtuse, racemes many-flowered, pedicels with a small bractea. *E. Bot. t.* 703. *E. Fl. v. i. p.* 323.

Marshy and watery places, especially in a gravelly soil. *Fl.* July, ♃.—This plant is very generally dispersed throughout the world. *Stem* 8—10 inches high, rounded, glabrous, as well as the ovate, subpetiolate, entire, fleshy *leaves*. *Flowers* small, white. *Cal.* small, 5-cleft, persistent: the segments surmounting the rounded *capsule*.

29. Jasióne. *Linn.* Sheep's-bit.

1. J. *montána*, Linn. (*annual Sheep's-bit or Sheep's-Scabious*); leaves linear waved hispid, peduncles solitary elongated, root annual. *E. Bot. t.* 882. *E. Fl. v. i. p.* 296.

Dry heathy pastures, in a light gravelly or heathy soil. *Fl.* June, July, ☉.—*Stem* 6—10 inches high, branched. *Flowers* bright blue, in terminal, dense, hemispherical *heads*, surrounded by a many-leaved

involuere. *Cal.* small, superior, 5-toothed. *Cor.* in 5 deep and narrow segments. *Anthers* united at the base. The whole inflorescence has, indeed, a very near affinity with that of the Class *Syngenesia*, where Linnæus placed it. Here, however, the little flowers are pedicellate upon the receptacle, and there is a distinct and true *calyx* to each.

30. Lobélia. *Linn.* Lobelia.

1. L. *úrens*, Linn. (*acrid Lobelia*); stem erect, leaves toothed nearly glabrous, radical ones obovate petioled, upper ones lanceolate sessile, raceme terminal bracteated, calyx rough. *E. Bot. t.* 953. *E. Fl. v. i. p.* 298.

Heathy ground, very rare; only found near Axminster, *Mr. Newberry*; and Ottery St. Mary, Devonshire, *Miss Burgess*. *Fl.* Aug. Sept. 4.—Milky, and, as its name implies, very acrid. One foot or more high, with distant *leaves* and axillary branches. *Flowers* deep-purple, slightly downy without.

2. L. *Dortmánna*, Linn. (*Water Lobelia*); leaves radical subcylindrical and obtuse of two parallel tubes, stem scarcely leafy, flowers racemed. *E. Bot. t.* 140. *E. Fl. v. i. p.* 297.

Lakes in the north and north-west of England, Scotland and Ireland, especially in the mountainous parts, frequent; often forming a green carpet at the bottom of the water with its densely-matted foliage. *Fl.* July, Aug. 4.—*Root* a small, thick, fleshy stock, from which descend many fibres and which send forth creeping filiform runners, (*Mr. W. Wilson*). *Leaves* 2—3 inches long, a little recurved, formed of 2 parallel tubes or cells. *Scape*, or almost *leafless stem*, flowering above water, a foot or more high, according to the depth of the water. *Flowers* pale blue, drooping; *fruit* erect.

31. Phyteúma. *Linn.* Rampion.

1. P. *orbiculáre*, Linn. (*round-headed Rampion*); head of flowers roundish, radical leaves ovato-oblong petiolate crenate those of the stem as well as the bracteas lanceolate. *E. Bot. t.* 142. *Hook. in Fl. Lond. N. S. t.* 56. *E. Fl. v. i. p.* 295.

Chalky soils, to the south of London, but rare. On the downs of Sussex and Hampshire; in Surry and Kent. *Fl.* Aug. 4.—*Stem* 1 foot high. *Root-leaves* numerous, but often withering while the stem is yet in perfection, as is the case with those of *Campanula rotundifolia*: *cauline* ones remote, gradually becoming smaller upwards. *Heads* of flowers of a most beautiful blue colour. The *capsules* too form a curious oval *head*, with their persistent calyces, each *calyx* spreading in a stellated manner.

2. P. *spicátum*, Linn. (*spiked Rampion*); flowers in an oblongo-cylindrical spike, radical leaves cordato-oblong petiolate somewhat doubly serrated, upper ones and bracteas linear-lanceolate short sessile. *Lindl. Syn. p.* 135. *Borrer, in E. Bot. Suppl. t.* 2598.

Woods, thickets, hedges, and fields recently cleared of wood, in several stations about Mayfield and Waldron, Sussex, *Mr. Borrer*. First detected in the former place in 1825 by the *Rev. Ralph Price*. *Fl.* June, July. 4.—Formerly cultivated, and the *root* eaten as a salad or boiled.

Much taller than the last. *Spike* of flowers 2—4 inches long, greenish-white. Upper part of the *stem* almost bare of *leaves*.

32. Campánula. *Linn.* Bell-flower.

* *Cor. campanulate. Capsule opening by lateral pores.*

1. C. *rotúndifolia*, Linn. (*round-leaved Bell-flower or Hare-bell*); glabrous, root-leaves subrotundo-cordate crenate (very soon withering) those of the stem linear entire. *E. Bot. t.* 866. *E. Fl. v. i. p.* 287.

Dry and hilly pastures, borders of fields, walls, &c. abundant, sometimes varying with white flowers. *Fl.* July, Sept. ♃.—*Panicle* few-flowered, lax. *Flowers* drooping. Whole plant slender and graceful:

> "E'en the slight *Hare-bell* raised its head,
> Elastic from her airy tread."

2. C. *pátula*, Linn. (*spreading Bell-flower*); stem angular scabrous, leaves roughish dentato-crenate those of the root obovato-lanceolate subpetiolate those of the stem linear-lanceolate, panicles spreading, calycine segments toothed, corolla spreading. *E. Bot. t.* 42. *E. Fl. v. i. p.* 288.

Pastures and hedges, chiefly confined to the middle and south-eastern counties of England, and even there by no means frequent. *Fl.* July, Aug. ⊙. (♂. *Sm.*)—Somewhat allied to *C. rotundifolia*, but much taller, with more branched *panicles*; larger, more spreading, more purple *flowers*, rough *stems* and *leaves*, and toothed or serrated *calycine segments*.

3. C. *Rapúnculus*, Linn. (*Rampion Bell-flower*); stem somewhat angular hairy below, leaves roughish those of the root obovato-oblong stalked crenate upper ones narrow-lanceolate, panicle erect racemose, calycine segments entire, limb of the corolla patent. *E. Bot. t.* 283. *Hook. in Fl. Lond. N. S. t.* 80. *E. Fl. v. i. p.* 289.

In Kent, Surry, Norfolk and Hampshire, in a gravelly soil: and in several of the midland counties, as far north as Yorkshire. *Fl.* July, Aug. ♃.—Taller (2-3 feet high) more erect and less panicled than the last. *Flowers* almost racemed, little spreading at the mouth, more truly campanulate. *Calycine segments* narrower and entire. The *roots* constitute *Ramps*, and used to be much cultivated for the table. Now they are principally confined to the kitchen-gardens of the curious.

4. C. *persicifólia*, Linn. (*Peach-leaved Bell-flower*); glabrous, stem rounded few-flowered, root-leaves obovate stalked crenate those of the stem linear-lanceolate subserrate sessile, calycine segments entire, corollas spreading. *Don, Fl. Br. Fasc. n.* 180. *E. Fl. v. i. p.* 290.

Woods near Cullen, Scotland, apparently indigenous, *G. Don. Fl.* July. ♃.—*Corolla* large, spreading. In really wild specimens, the flowers are often solitary upon the stem.

5. C. *latifólia*, Linn. (*Giant Bell-flower*); stem quite simple rounded, leaves ovato-lanceolate acute scabrous crenato-serrate,

peduncles erect single-flowered, calyx glabrous its segments entire, fruit drooping. *E. Bot. t.* 302. *E. Fl. v. i. p.* 290.

Moist shady woods. In Norfolk, Suffolk, Bedfordshire and Derbyshire, but rare; less unfrequent in the north of England, and very common in woody glens in Scotland. New-Ross, Ireland, *Mr. Mackay. Fl.* July, Aug. ♃.—2-3 feet high. *Corolla* very large, blue, often white in the Scottish woods. This is the finest and most stately of our species.

6. C. *rapunculoídes*, Linn. (*creeping Bell-flower*); stem slightly branched, leaves cordato-lanceolate scabrous crenate, flowers solitary unilateral drooping axillary forming a leafy raceme, segments of the calyx reflexed. *E. Bot. t.* 1369. *E. Fl. v. i. p.* 291.

Woods and fields, rare. Oxfordshire (*Buddle's Herbarium*). On the magnesian limestone between Went-bridge and Darlington, Yorkshire, *Mr. James Backhouse.* Blair in Athol, Scotland; and found plentifully in cornfields 2 miles N. W. of Kirkcaldy, (where it is considered a troublesome weed by the farmers,) by the late *Alexander Chalmers, Esq.* an accomplished botanist and one of the most excellent of men. *Fl.* July, Aug. ♃.—2 f. high. *Leaves* gradually narrower in the upper part of the stem. *Flowers* large. *Calycine segments* entire, rough.

7. C. *Trachélium*, Linn. (*Nettle-leaved Bell-flower*); hispid, stem angular, leaves petiolate cordate acuminate inciso-serrate, peduncles axillary few-flowered, calycine segments erect. *E. Bot. t.* 12. *E. Fl. v. i. p.* 292.

Woods in England, frequent. Rare in Scotland: old walls of Mugdoch Castle, near Glasgow, *Mr. Hopkirk. Fl.* July, Aug. ♃.—*Leaves* much like those of the Nettle, whence its English name.

8. C. *glomeráta*, Linn. (*clustered Bell-flower*); stem angular simple nearly smooth, leaves scabrous crenate oblongo-lanceolate, root-leaves petiolate those of the stem semiamplexicaul, flowers sessile mostly in a terminal cluster. *E. Bot. t.* 90. *E. Fl. v. i. p.* 292.

In dry, principally chalky and clayey pastures, England. Hilly pastures in Scotland; but confined, I believe, to the east side, between the Firth of Forth and Montrose. *Fl.* July, Aug. ♃.—Varying much in height, from 3 or 4 inches to a foot. *Flowers* rather large, erect; the *petals* sometimes turning to a bunch of leaves, (*Prof. Henslow*). Many slight varieties of this plant are considered as species by the continental Botanists.

** *Corolla campanulate. Capsule opening at the free extremity, within the calycine segments.* (Wahlenbergia, *Schrad.*)

9. C. *hederácea*, Linn. (*Ivy-leaved Bell-flower*); stem weak filiform, leaves all stalked cordate angulato-dentate glabrous. *E. Bot. t.* 73. *Hook. in Fl. Lond. N. S. t.* 93. *E. Fl. v. i. p.* 293.

In moist shady woods. Abundant in Devonshire, Cornwall, the Scilly Isles, and Wales. In Sussex (plentiful), Hampshire, Oxfordshire, Worcestershire, Essex. Epping-forest, near Theydon Bois, *Mr. H. Cole.* On the north bank of the Clyde, (*Dr. Brown*) whence it has been con-

veyed with the turf to grass-walks in the garden of Sir Michael Shaw Stewart of Ardgowan, where it was pointed out to me by my valued friend *D. Fogo of Row, Esq.* County of Cork and other places in Ireland, *Mr. Mackay*. *Fl.* July, Aug. 4.—A most graceful little plant, growing in lax tufts like *Sibthorpia europæa*. *Peduncles* long, slender, mostly terminal. *Flowers* half an inch or more in length, at first drooping, then erect; pale purplish-blue. *Fruit*, which I have on beautiful specimens communicated to me by Mr. W. Wilson, from North Wales, an almost globose *capsule*, $\frac{3}{4}$ths adhering to the *calyx*, opening, not at the sides, but in the upper free part, between the persistent segments of the calyx. This is included in the genus *Wahlenbergia* of Schrad. But it has not the habit of the other *Wahlenbergiæ*, which are, as M. Alphonse de Candolle observed to me, all natives of the southern hemisphere. An excellent Monograph of the *Campanulaceæ* has just appeared from the pen of this gentleman, who visited the Herbaria of this country with a view to gaining a more complete knowledge of the tribe.

**** Corolla nearly rotate. Capsule triangular, opening by valves at the extremity on the outside, and between the segments of the calyx.* (Prismatocarpus, *L'Hér. Lindl.*)

10. C. *hýbrida*, Linn. (*Corn Bell-flower*); stem simple or often branched from the base, leaves oblong crenate waved, corolla widely spreading shorter than the calycine segments, capsule elongated triangular. *E. Bot. t.* 375. *E. Fl. v. i. p.* 293.

Corn-fields of a dry and chalky nature, chiefly confined to the middle and southern parts of England. *Fl.* Aug. ☉.—Sir J. E. Smith is of opinion that the beautiful *C. Speculum*, or *Venus' Looking-glass*, is the same species as this, with larger *flowers*. Be that as it may, although extremely common on the continent immediately upon crossing the British Channel, and a splendid ornament to the corn-fields there, it has never been found wild in England.

33. Lonicéra, *Linn.* Honey-suckle.

* *Climbing; flowers in whorled heads.* (Caprifolium, *Juss.*)

1. L. *Caprifólium*, Linn. (*pale perfoliate Honey-suckle*); flowers ringent whorled terminal sessile, upper leaves connato-perfoliate. *E. Bot. t.* 799. *E. Fl. v. i. p.* 326.

Woods and thickets, rare. Oxfordshire and Cambridgeshire. In Collinton woods and on Corstorphine hill near Edinburgh, and in hedges at Dalmeny, Linlithgowshire. *Fl.* June. ♄.—*Berries* smooth, of an orange-colour.

2. L. *Periclýmenum*, Linn. (*common Honey-suckle or Woodbine*); flowers ringent capitate terminal, leaves all distinct. *E. Bot. t.* 800. *E. Fl. v. i. p.* 326.

Frequent in woods and hedges;

> "And honey-suckle loves to crawl
> Up the low *crag* and ruined *wall*."

Fl. June—Oct. ♄.—*Berries* red. The *stems* of this and the last species invariably twine in one and the same direction.

** *Erect; peduncles 2-flowered.* (Xylosteum, *Juss.*)

3. L. *Xylósteum*, Linn. (*upright Fly Honey-suckle*); peduncles 2-flowered, berries distinct, leaves ovate acuminate entire downy. *E. Bot. t.* 916. *E. Fl. v. i. p.* 326.

Thickets; near Sewenshele, Northumberland, *Wallis.* Certainly wild near Houghton Bridge, 4 miles from Arundel, Sussex, *Mr. Borrer. Fl.* July. ♄.—An erect *shrub*; with pale yellowish, small, scentless *flowers*, succeeded by bright scarlet *berries.*

34. Rhámnus. *Linn.* Buckthorn.

1. R. *cathárticus*, Linn. (*common Buckthorn*); spines terminal, flowers 4-cleft diœcious, leaves ovate sharply serrated. *E. Bot. t.* 1629. *E. Fl. v. i. p.* 327.

Woods, hedges and thickets; not unfrequent in England. About Dumfries, Scotland. Near Cork and Lough Earne in Ireland, *Mr. J. T. Mackay. Fl.* May, June. ♄.—A spreading *shrub. Leaves* with 4 or 6 strong lateral nerves parallel with the margin or rib; *serratures* glandular. *Flowers* in dense fascicles. " In the *barren* flower the tube of the *cal.* is *campanulate*, the segments ovate, 2-ribbed. *Pet.* 4, oblongo-ovate, inserted below the mouth of the cal., alternate with its segments: *Stam.* inserted just below the petals: there is an abortive *germen* visible. In the *fertile* flower the *petals* are linear, incurved above. *Stam.* abortive. *Styles* 4, united half-way up, spreading. *Stigmas* small, slightly decurrent along the inner edge of the styles. *Germen* superior," (*Wilson.*) *Berries* black, nauseous, powerfully cathartic. They afford a *yellow* dye in an unripe state; the bark a *green* dye. " *Seeds* ovate, acute at the lower extremity, rounded at the back, with two flat sides, forming the internal angle. *Embryo* with kidney-shaped *cotyledons*, laterally bent, surrounded by the *albumen*," (*Wilson*).

2. R. *Frángula*, Linn. (*Berry-bearing Alder or Alder Buckthorn*); unarmed, flowers perfect, leaves obovate entire. *E. Bot. t.* 250. *E. Fl. v. i. p.* 328.

Woods and thickets in England. Near Auchincruive, Ayrshire, *Mr. Smith. Fl.* May. ♄.—A small *shrub. Flowers* pedunculate, axillary, somewhat fascicled, whitish-green. *Petals* very minute. *Berries* dark-purple, with two *seeds*, purgative.

35. Euónymus. *Linn.* Spindle-tree.

1. E. *europæus*, Linn. (*common Spindle-tree*); flowers mostly tetrandrous, petals acute, branches glabrous, leaves ovato-lanceolate minutely serrated. *E. Bot. t.* 362. *E. Fl. v. i. p.* 329.

Woods and hedges; frequent in England, and the south of Ireland, *Mr Mackay:* rare in Scotland. King's Park, near Edinburgh, *Sibbald. Fl.* May. ♄.—*Shrub* 3—5 feet high. *Bark* green, smooth. *Leaves* glabrous. *Peduncle* bearing a few-flowered *Umbel. Flowers* small, white. *Fruit* obtusely angular, very beautiful, rose-coloured. *Arillus* orange-coloured.—The *Berries* and even *leaves* are said to be dangerous, and the whole plant is fetid. Of its tough white wood, skewers and spindles are made, and Linnæus tells us it affords the best charcoal for drawing.

36. Impátiens. *Linn.* Balsam.

1. I. *Noli-me-tángere*, Linn. (*yellow Balsam or Touch-me-not*); joints of the stem swelling, leaves ovate serrated petiolate, peduncles solitary many-flowered. *E. Bot. t.* 937. *E. Fl. v. i. p.* 299.

Rare; moist shady woods in Yorkshire and Westmoreland. Guildford, Surry, *Rev. J. Jenyns.* Abundant in a wet glen at Castlemilk, near Glasgow; but probably the outcast of a garden, *Mr. Hopkirk. Fl.* July, Aug. ⊙.—*Stem* 1 foot high, rounded, succulent, fragile. *Flowers* large, yellow, spotted with orange. *Capsule* bursting elastically and scattering its *seeds* with considerable force: the valves are then spirally twisted.

37. Víola. *Linn.* Violet.

* *Stemless, or nearly so.*

1. V. *hírta*, Linn. (*hairy Violet*); leaves cordate rough as well as the petioles and capsules with hairs, calyx-leaves obtuse, lateral petals with a hairy central line, creeping scions none. *E. Bot. t.* 894. *E. Fl. v. i. p.* 301.

Woods and pastures in England, principally in a chalky or limestone soil. Rare in Scotland, and, I believe, found only in the neighbourhood of Edinburgh. *Fl.* April, May. 4.—*Stigma* an oblique point, in this and the 5 following species. *Flowers* pale, rather dingy blue, scentless. Nearly allied to *V. odorata;* distinguished, as Mr. Curtis well observed, by the short not creeping *scions*, by the greater hairiness of the plant, and by the situation of the little *bracteas* of the scape; here below, in *V. odorata* above the middle.[1]—*Mr. J. T. Mackay* has observed this species, immediately after flowering, to elongate its *flower-stalks*, which, taking a downward direction, bury the ripening *capsules* to the depth of 2—3 inches beneath the soil. The *flowers* of this and the following species are often destitute of petals, and yet bear fruit.

2. V. *odoráta*, Linn. (*sweet Violet*); leaves cordate and as well as the petioles nearly glabrous, calyx-leaves obtuse, lateral petals with a hairy line, scions creeping. *E. Bot. t.* 619. *E. Fl. v. i. p.* 301.

Woods, banks and pastures; frequent in England, very rare in Scotland. Near Slateford and Collinton woods, Edinburgh, *Dr. Greville.* Wood near the Castle Rock, Stirling, *Dr. Graham.* Hedges between Killiney hill and Bray, Ireland, *Mr. J. T. Mackay. Fl.* March, April. 4.—*Flowers* deep purple, fragrant, often white; in many parts of Devonshire, in the stiff red soil about Torquay especially, I have seen them very commonly of a lilac colour. *Bracteas* inserted above the middle of the *scape.* Mr. W. Wilson observes that the hairs of the scapes and leaf-stalks are deflexed, which is not the case with *V. hirta.* The Sorbet of the Turks, according to Hasselquist, is prepared from these flowers and sugar. I do not know where the Highland ladies of former times obtained their *violets* to make a cosmetic. Yet the plant was known to them, if the following lines given by Lightfoot are correctly translated from the Gaelic; "Anoint thy face with goat's milk in which *Violets* have been infused, and there is not a young prince upon earth who will not be charmed with thy beauty."

[1] Mr. W. Wilson finds a monstrosity in a leaf of this species, bearing on its stalk two smaller petiolated leaves.

3. V. *palústris*, Linn. (*Marsh Violet*); leaves cordate or kidney-shaped quite glabrous veiny beneath, spur very short, lateral petals scarcely hairy, scions none. *E. Bot. t.* 444. *E. Fl. v. i. p.* 303.

Bogs and marshy grounds; less frequent in the south; abundant in the mountains of Scotland, and at a very considerable elevation. *Fl.* April —June, and even July in the colder regions. 4.—*Flowers* very pale blue, with purple sheaths. The *petals* are slightly hairy on one side at the base, as Mr. W. Wilson well observes; the lateral ones have not a distinct line of hairs.

** *Furnished with an evident stem.*

4. V. *canína*, Linn. (*Dog's Violet*); stem at length ascending channelled, leaves cordate acute, leaflets of the calyx acuminate, stipules long ciliato-dentate, bracteas subulate entire. *E. Bot. t.* 620. *E. Fl. v. i. p.* 303.

Woods, banks and dry pastures, frequent, and in clefts of rocks upon the mountains at a considerable elevation. *Fl.* April—Aug. 4.—Variable in regard to size; but, as it appears to me, very constant to the above characters. In mountainous situations, the blossoms are often numerous and large in proportion to the size of the plant. *Flowers* scentless, blue, purple or sometimes almost white. On the sandy Denes at Yarmouth, this plant is very small in all its parts.

5. V. *láctea*, Sm. (*Cream-coloured Violet*); stem ascending, leaves ovato-lanceolate glabrous, stipules dentate, calyx-leaflets acuminate. *E. Bot. t.* 445. *E. Fl. v. i. p.* 303.

On mountains and boggy heaths. Near Tonbridge Wells, and in Cornwall. Near Peebles. Brandon Mountain, Ireland, *Dr. Taylor*. *Fl.* May. 4.—A small plant, with its *leaves* almost lanceolate, and narrower than in the last species, and with pale blue or almost white *flowers*. But it appears very doubtful if it be really distinct. De Candolle makes it a var. of *V. montana* of Linn.: and it seems to agree also with *V. lancifolia* of Thore, which again De Candolle considers to belong to *V. pumila* of Villars.

6. V. *flavicórnis*, Sm. (*dwarf yellow-spurred Violet*); "stem ascending woody somewhat angular much branched, leaves heart-shaped coriaceous smooth and even, stipules and bracteas fringed, calyx-leaves lanceolate."—*Sm. in E. Fl. v. i. p.* 305.—*V. canina*, *γ. Fl. Brit. p.* 247.—*V. canina, var. minor, Dill. in Ray Syn. p.* 364. *t.* 24. *f.* 1.

Pastures and banks, near Mitcham in Surry and about Norwich, (*E. Fl.*) *Fl.* May, June. 4.—Smith says this little plant is not uncommon, but that it is usually neglected as a var. of *V. canina*. It is probably the small state of *V. canina*, above alluded to, as growing on the Denes near Yarmouth. Mr. Borrer considers this and *V. lactea* the same, and that both names ought to merge into *V. pumila* of Vill.

7. V. *tricolor*, Linn. (*Pansy Violet or Heart's Ease*); mostly annual, stem angled branched, leaves oblong deeply crenate, stipules lyrate pinnatifid. *E. Bot. t.* 1287. *E. Fl. v. i. p.* 305.

Banks and cultivated fields, frequent. *Fl.* the whole summer. ⊙. ♂.

or 4.—Extremely variable, especially in the size and colour of its *flowers*. *Stigma*, in this and the following species, capitate, obliquely perforated.

8. V. *lútea*, Huds. (*yellow Mountain Violet or yellow Pansy*); perennial, stem much branched at the base, leaves ovato-oblong crenate, stipules lyrate subpalmato-pinnatifid. *E. Bot. t.* 721. *E. Fl. v. i. p.* 306.—*V. grandiflora, Huds., not Linn.*—*V. sudetica, Willd.*—*De Cand.*—β., flowers all purple. *V. amœna, Sym. Syn. De Cand. Syn. v. i. p.* 302.—γ., leaves broadly ovate subcoriaceous, flowers deep yellow.

Mountainous pastures; frequent in Wales, the north of England and Scotland; α. and β. often growing together. γ. Isle of Arran, *Mr. S. Murray*. A small yellow *var.* is found by Mr. Tozer at the Land's End, Cornwall. *Fl.* May—Sept. 4.—The *flowers* are generally of a pale yellow or sulphur colour, much larger than in *V. tricolor*; often the upper *petals* are purple, and in β. all are purple. The var. γ. is a very singular one, discovered by Mr. Murray in Arran, and cultivated for many years in the Glasgow Bot. Garden. It forms a large dense tuft, and with its very numerous, broad dark green *leaves* and bright yellow *flowers*, makes a handsome appearance. Sir J. E. Smith has well distinguished *V. lutea* from the *V. grandiflora* of Linn. by the shortness of its spur. But distinct as it probably is from *V. tricolor*, it is very difficult to define the characters in words.

38. Ríbes. *Linn.* Currant and Gooseberry.

* *Without Thorns.*

1. R. *rúbrum*, Linn. (*common or red Currant*); without thorns erect, racemes glabrous pendulous, flowers nearly plane, petals obcordate. *E. Bot. t.* 1289. *E. Fl. v. i. p.* 330.

Alpine woods: by the Tees-side in England. In Isla, one of the Hebrides, and about Culross in Scotland: not unfrequent in hedges, but scarcely wild in such situations. *Fl.* May. ♄.—*Leaves* 5-lobed, doubly serrated, on longish stalks. There is a small scale or *bractea* at the base of each pedicel. *Flowers* greenish. *Fruit* usually red, in gardens white and rose-coloured, crowned as in all this genus, with the withered flower.

2. R. *petræum*, Wulf. (*Rock Currant*); without thorns erect, racemes erect in flower, in fruit pendulous slightly downy, flowers nearly plane, petals bluntish, bracteas shorter than the pedicel. *E. Bot. t.* 705. *E. Fl. v. i. p.* 331.

Woods in the north of England and Scotland. Eggleston and near Conscliffe, Durham. Near Airly Castle; and by the Spey-side, at Avicmore, Scotland, *Rev. G. Gordon*. *Fl.* May, June. ♄.

3. R. *spicátum*, Robson, (*acid Mountain Currant*); without thorns, spikes upright in flower and in fruit, flowers nearly sessile, petals oblong, bracteas shorter than the flowers. *Robs. in Tr. of Linn. Soc. v. iii. p.* 240. *t.* 21. *E. Bot. t.* 1290. *E. Fl. v. i. p.* 331.

Woods near Richmond, Yorkshire, *Mr. G. Robson*; and formerly

found near Gainsford, Durham. *Fl.* May. ♄.—A very dubious species, which I only know from the figures above-quoted.

4. R. *alpínum*, Linn. (*tasteless Mountain Currant*); without thorns, racemes erect both in flower and fruit, flowers plane shorter than the bracteas, leaves shining beneath. *E. Bot. t.* 704. *E. Fl. v. i. p.* 332.

Woods, in the north of England. About Bradford and Ripon, Yorkshire. Woods, and fissures of rocks, in Scotland, *Dr. Parsons.* Woods at Cadzow Castle, near Hamilton. *Fl.* May. ♄.—*Leaves* small, frequently 3-lobed; lobes acute, deeply serrated. *Racemes* few-flowered; *flowers* small. *Berries* red.—Well distinguished by the length of its bracteas.

5. R. *nígrum*, Linn. (*black Currant*); without thorns, racemes lax downy pendulous with a separate simple flower-stalk at their base, flowers campanulate, leaves dotted with glands beneath. *E. Bot. t.* 1291. *E. Fl. v. i. p.* 332.

Woods and river-sides, in various situations. *Fl.* May. ♄.—*Berries* the largest of our Currants, black, much esteemed medicinally and for making jelly. The glands of the *leaves* yield a peculiar smell when bruised, which has been compared to that of *Savin*, (*Juniperus Sabini.*)

** *Thorny.*

6. R. *Grossulária*, Linn. (*common Gooseberry*); branches thorny, leaves rounded and lobed, peduncles hairy single-flowered with a pair of minute bracteas, fruit more or less hairy. *E. Bot. t.* 1292. *E. Fl. v. i. p.* 333.—*R. Uva-crispa, Linn.*—*E. Bot. t.* 2057.

Hedges and thickets; scarcely an aboriginal native? Apparently indigenous in Hamilton woods, Scotland. *Fl.* April, May. ♄.—*Thorns* immediately beneath a fascicle of *leaves*, solitary, or 2—3 combined at the base, spreading. *Fruit* much esteemed in cool and temperate climates, where alone it comes to perfection; and varying exceedingly by cultivation, in size, colour, and flavour.

39. Hédera. *Linn.* Ivy.

1. H. *Hélix*, Linn. (*common Ivy*); leaves ovate or cordate and 5-lobed, lobes angular, umbel erect. *E. Bot. t.* 1267. *E. Fl. v. i. p.* 334.

Hedges, woods, old buildings, or rocks and trunks of trees, frequent. *Fl.* Oct. Nov. ♄.—*Stems* very long, creeping, throwing out numerous *roots*, by which they adhere to hard substances. *Leaves* very shining, dark green, often veined with whitish lines. *Flowers* small, pale green. *Cal.* teeth very minute. *Petals* reflexed. *Berries* smooth and black.—A variety called the *Irish Ivy* is much cultivated on account of the vastly larger size of its foliage, and its very rapid growth.—The *Ivy* is the badge of the Scottish Clan *Gordon.*

40. Glaux. *Linn.* Sea-Milkwort.

1. G. *marítima*, Linn. (*common Sea-Milkwort, or black Saltwort.*) *E. Bot. t.* 13. *E. Fl. v. i. p.* 336.

Sea-shore and muddy salt-marshes, abundant. *Fl.* July. ♃.—*Stems* 2—4 or 5 inches long, stout, branched, often procumbent. *Leaves* opposite, ovate, glabrous, fleshy, entire, sessile, small. *Flowers* sessile, solitary, axillary, rose-coloured, with 5, obtuse, spreading lobes.

41. Illécebrum. *Linn.* Knot-grass.

1. I. *verticillátum*, Linn. (*whorled Knot-grass*); stems procumbent filiform glabrous, leaves broadly ovate, flowers axillary in crowded whorls. *E. Bot. t.* 895. *E. Fl. v. i. p.* 335.

Marshy or boggy ground, in Devonshire and Cornwall. Base of a hill at the race-course, Truro, and road-side between Penzance and St. Ives, *Rev. J. S. Tozer*. *Fl.* July. ♃.—A small plant, with spreading and procumbent filiform *stems;* white, scariose *stipules* jagged at the margin, and numerous whitish *flowers*.

42. Thésium. *Linn.* Bastard Toad-flax.

1. T. *linophýllum*, Linn. (*flax-leaved Bastard-Toadflax*); leaves linear-lanceolate, racemes panicled leafy, peduncles and pedicels bracteated, fruit nearly globose. *E. Bot. t.* 247. *E. Fl. v. i. p.* 337.

Elevated chalky pastures, Cambridgeshire, Norfolk, Suffolk and Dorsetshire; Ranmar hills, near Dorking, Surry, *J. S. Mill, Esq.* *Fl.* July. ♃.—*Roots* woody, sending forth several herbaceous, spreading, leafy *stems*, terminated by the somewhat paniculated leafy *racemes*. *Segments* of the *perianth* white. *Fruit* strongly ribbed.

PENTANDRIA—DIGYNIA.

43. Swértia. *Linn.* Felwort.

1. S. *perénnis*, Linn. (*Marsh Felwort* or *Swertia*); radical leaves nerved ovate attenuated at each extremity, peduncles corymbose, segments of the corolla lanceolate acute. *E. Bot. t.* 1441. *E. Fl. v. ii. p.* 26.

Wales, *Dr. Richardson*, according to *Hudson*. But there is reason to apprehend some mistake, and that it was never found wild in Britain. *Fl.* Aug. ♃.

44. Gentiána. *Linn.* Gentian.

* *Cor. subcampanulate, the mouth naked.*

1. G. *acaúlis*, Linn. (*dwarf Gentian*); leaves oblongo-lanceolate acute, flower solitary 5-cleft about as long as the quadrangular stem. *E. Bot. t.* 1594. *E. Fl. v. ii. p.* 28.

Near Haverford-West, *M. de St. Amans;* assuredly the outcast of a garden. *Fl.* June, July. ♃.

2. G. *Pneumonánthe*, Linn. (*Marsh Gentian*); leaves linear, flowers terminal and axillary sessile, corolla 5-cleft. *E. Bot. t.* 28. *E. Fl. v. ii. p.* 27.

Moist heathy places, in several parts of England. *Fl.* Aug. ⊙.—Sept. 4.—*Stem* Upright, 4 to 6 or 8 inches tall. *Corolla* large, deep blue within, having 5 broad greenish lines corresponding with the segments.

** *Cor. somewhat funnel or salver-shaped, with 5 large and 5 smaller segments.*

3. G. *vérna*, Linn. (*Spring Gentian*); stem 1-flowered, leaves crowded ovate, corolla salver-shaped with 5 large and 5 small alternate bifid segments. *E. Bot. p.* 493. *E. Fl. v. ii. p.* 29.

Alpine pastures, rare; between Gort and Galway, Ireland, *Mr. Heaton:* on limestone rocks in the Barony of Burren in the same country, *Mr. J. T. Mackay.* Middleton in Teesdale, Durham; *Rev. J. Harriman. Fl.* April. 4.

4. G. *nivális*, Linn. (*small alpine Gentian*); branches single-flowered, leaves elliptical, corolla salver-shaped 5-cleft with intermediate small bifid segments, angles of the calyx acute (brown.) *E. Bot. t.* 896. *E. Fl. v. ii. p.* 29.

Exceedingly rare, having only been found on Ben Lawers first by *Mr. Dickson*, and since by *Mr. G. Don* and *Mr. W. Wilson. Fl.* Aug. ⊙.—This rare and beautiful little alpine plant was supposed to be lost to this country, till Mr. Wilson found it again on Ben Lawers, in August, 1827; but so rare is it that after the most diligent search, he could only gather two specimens.

*** *Cor.* 4—5-*cleft, somewhat salver-shaped, fringed at the throat.*

5. G. *Amarélla*, Linn. (*autumnal Gentian*); stem very much branched many-flowered, leaves ovato-lanceolate, calycine segments nearly equal, corolla 5-cleft. *E. Bot. t.* 236. *E. Fl. v. ii. p.* 30.

Pastures, particularly in subalpine situations, England, Scotland, and Ireland: especially abundant in limestone countries. *Fl.* Apr.—June, and often through the whole summer and autumn. ⊙.—From 3 inches to a foot high, branched from the base and covered with *flowers* of a pale rather dingy purple. "Fringe under the mouth of the corolla a beautiful object beneath the microscope; the rays tapering, and covered with prominent dots." *Mr. W. Wilson.*

6. G. *campéstris*, Linn. (*Field Gentian*); stem very much branched many-flowered, leaves ovato-lanceolate, 2 outer segments of the calyx very large ovate, corolla 4-cleft. *E. Bot. t.* 237. *E. Fl. v. ii. p.* 31.

Hilly pastures, frequent on a limestone or chalky soil in England and Ireland. Abundant in Scotland, especially near the sea. *Fl.* Aug.—Oct. ⊙.—Very similar to the last in general habit; but with larger *flowers*, and these so numerous in specimens gathered on the Isle of Skye that I counted 86 on one plant. All the *Gentians* contain the bitter principle abundantly; this particular species is said to be used by the poor in Sweden in lieu of hops.

45. Cúscuta. *Linn.* Dodder.

1. C. *europæa*, Linn. (*greater Dodder*); flowers sessile, corolla

4—5-cleft without any scale at the base of the stamens, stigma simple. *E. Bot. t.* 378, (*not t.* 55.) *Hook. in Fl. Lond. t.* 67. *E. Fl. v. ii. p.* 24.

Parasitical on nettles, flax, &c.; scarce, yet found in several counties of England and Scotland, and in Ireland, *Mr. J. T. Mackay. Fl.* Aug. Sept. ⊙.—*Stems* very large, red, having small tubercles and papillæ, which act as *roots*. *Flowers* clustered, of a pale yellowish rose-colour.

2. C. *Epíthymum*, Linn. (*lesser Dodder*); flowers sessile, corolla mostly 4-cleft with a small fringed scale at the base of each stamen, stigma simple. *E. Bot. t.* 55, (*C. Epithymum*) *and at t.* 378. *E. Fl. v. ii. p.* 25.

Frequent on furze, heath and thyme, in exposed situations in England and Scotland. *Fl.* July, Aug. ⊙. (♃? *Sm.*)—Smaller than the last, especially in the *flowers*, and well distinguished by the presence of the scales.

46. Hydrocótyle. *Linn.* White-rot.

1. H. *vulgáris*, Linn. (*common White-rot, Marsh Penny-wort*); leaves peltate orbicular somewhat lobed and crenate, heads of about 5 flowers. *E. Bot. t.* 751. *E. Fl. v. ii. p.* 96.

Bogs, marshes, and banks of lakes, frequent. *Fl.* May, June. ♃.—*Stems* creeping; producing, from their joints, clusters of petiolated *leaves* and simple *flower-stalks*, which are much shorter than the petioles. *Flowers* often with a reddish tinge.

47. Sanícula. *Linn.* Sanicle.

1. S. *europæa*, Linn. (*Wood Sanicle*); lower leaves palmate with the lobes trifid inciso-serrate, flowers all sessile. *E. Bot. t.* 98. *E. Fl. v. ii. p.* 36.

Woods and thickets, frequent. *Fl.* May, June. ♃.—*Leaves* mostly radical, finely serrated, almost ciliated. *Heads of flowers* small, white.

48. Cicúta. *Linn.* Cowbane.

1. C. *virósa*, Linn. (*water Hemlock or Cowbane*). *E. Bot. t.* 479. *E. Fl. v. ii. p.* 62.

In ditches, and about the margins of rivers and lakes in England and the lowlands of Scotland; but not very frequent. *Fl.* July, Aug. ♃.—*Stem* 3—4 feet high, branched. *Root* and lower part of the *stem*, which is very large, hollow, and divided by transverse partitions into large cells. *Leaves* biternate, the *radical* ones pinnated: *leaflets* lanceolate, serrated. *Umbels* pedunculated.—A deadly poison.

49. Ápium. *Linn.* Celery.

1. A. *gravéolens*, Linn. (*Smallage or wild Celery*). *E. Bot. t.* 1210. *E. Fl. v. ii. p.* 76.

Marshy places, especially near the sea; not unfrequent in England. Musselburgh, Scotland.—*Fl.* Aug. ♂.—*Stem* furrowed, 2 feet high. *Leaves* ternate; *leaflets* large, wedge-shaped, lobed and cut at the extremity: the lower leaves are upon long stalks with their leaflets rounder

and truncate at the base. *Umbels* often sessile; peduncled ones of few *flowers*.—This is the origin of our *garden Celery*: and both its seeds and branched stems are well known as culinary articles.

50. Petroselínum. *Hoffm.* Parsley.

1. P. *satívum*, Koch, (*common Parsley*); leaves decompound shining, lower leaflets ovato-cuneate trifid and toothed, upper ones lanceolate nearly entire, partial involucres filiform.—*Apium Petroselinum, Linn.*

Frequent on old walls, especially in the south-west of England, naturalized. *Fl.* June, July. ♂.—I introduce this at the suggestion of my friend Mr. Edward Forster, who remarks that it has a stronger claim to a place in a British Flora than many plants that are universally admitted. Blarney Castle, near Cork, *Mr. W. Wilson.*

2. P. *ségetum*, Koch, (*Corn Parsley*); radical leaves pinnated, leaflets ovate lobed cut and serrated, upper leaves with linear very imperfect leaflets, rays of the umbels few and unequal.—*Sison segetum, Linn.—E. Bot. t.* 228. *E. Fl. v. ii. p.* 60.

Moist fields, chiefly on calcareous soil, in several parts of the middle and south of England. Sea-shore, between Bognor and Little Hampton: and between Esher and West Moulsey, Surry, *J. S. Mill, Esq.* Said to have been found in one of the Hebrides, by the late *Dr. Walker. Fl.* Aug. ☉. or ♂.—1 foot to 1½ high, wiry, spreading, branched. *Leaves* few, mostly radical. *Universal involucre* of about 2 leaves. *Fruit* ovate, strongly ribbed.

51. Trínia. *Hoffm.* Honewort.

1. T. *glabérrima*, Hoffm. (*glabrous Honewort*); glabrous, leaves tripinnate, leaflets linear uniform, involucre none.—*Pimpinella dioica, E. Bot. t.* 1209. *E. Fl. v. ii. p.* 90.—*Seseli pumilum, Linn.* (*Sm.*).

Limestone, rare. Near Bristol, on St. Vincent's Rocks; at Uphill, Somersetshire; Whorle Hill, Somerset, *Mr. Christy;* near Athboy, county of Meath, Ireland, *Dr. Wade. Fl.* May, June. ♃.—Whole herb glaucous-green, pale, remarkable for the narrow segments of its *leaves*, and its diœcious *flowers*. *Root* fusiform.

52. Helosciádium. *Koch.* Marsh-wort.

1. H. *nodiflórum*, Koch, (*procumbent Marsh-wort*); stem procumbent, leaves pinnate, leaflets ovate subequally serrated, umbels sessile opposite to the leaves.—*Sium nodiflorum, Linn.—E. Bot. t.* 639. *E. Fl. v. ii. p.* 57.

Sides of lakes and rivulets. *Fl.* July, Aug. ♃.—1½—2 feet high. *Leaflets* of the radical *leaves* sometimes with a lobe at the base, on the upper margin. *Petals* slightly incurved at the apex.

2. H. *répens*, Koch, (*creeping Marsh-wort*); stem creeping, leaflets broadly ovate inciso-dentate, umbels on peduncles opposite to the leaves.—*Sium repens, Linn.—E. Bot. t.* 1431. *E. Fl. v. ii. p.* 58.

Boggy meadows and watery places in Oxfordshire, Cambridgeshire, and Bedfordshire. Side of the Fergus, above the bridge of Ennis, *Mr. J. T. Mackay;* and at Guillon, Scotland. *Fl.* July, Aug. ♃.—*Stems* 6—10 inches long. *Leaflets* 5—9.—Scarcely distinct from *H. nodifl.*

3. H. *inundátum*, Koch, (*least Marsh-wort*); stems creeping, lower leaves capillaceo-multipartite upper ones pinnatifid, umbels generally of 2 rays.—*Sium inundatum, Wiggers.*—*E. Fl. v. ii. p.* 58. —*Sison inundatum, E. Bot. t.* 227. *Hook. Scot. i. p.* 21.—*Hydrocotyle inundata, Sm. Fl. Brit. p.* 290.—*Meum, Spreng.*

Lakes and pools that are dried up in summer. *Fl.* May, July. ♂ ? ⊙ ?—*Stems* 4—6 inches long; most of them capillaceo-multifid, with the segments small and lanceolate. *Partial umbels* minute, scarcely longer than their *involucres. Univ. involucre* none. *Fruit* large in proportion to the size of the plant, striated.

53. Síson. *Linn.* Bastard Stone-Parsley.

1. S. *Amómum*, Linn. (*Hedge Bastard Stone-Parsley*). *E. Bot. t.* 954. *E. Fl. v. ii. p.* 60.

Chalky, rather moist ground, under hedges in England. *Fl.* Aug. ⊙. or ♂.—2—3 feet high. Lower *leaves* pinnated with lobed, inciso-serrate, ovate *leaflets;* upper ones cut into narrow segments. *Petals* broad. *Fruit* roundish-ovate.—Smith says that the seeds are pungent and aromatic; and that they and the whole plant, when bruised, emit a strong smell, resembling that of *Bugs.*

54. Ægopódium. *Linn.* Gout-weed.

1. Æ. *Podagrária*, Linn. (*Gout-weed, or Herb-Gerarde*). *E. Bot. t.* 940. *E. Fl. v. ii. p.* 77.

Gardens and wet places. *Fl.* May, June. ♃.—A foot and a half high. *Radical leaves* twice ternate, upper ones ternate; *leaflets* ovate, acuminate, unequally serrated. The creeping *root* is pungent and aromatic.

55. Cárum. *Linn.* Caraway.

1. C. *Cárui*, Linn. (*common Caraway*); stem branched, partial involucre none, universal scarcely any. *E. Bot. t.* 1503. *E. Fl. v. ii. p.* 86.

Meadows and pastures, in several places both in England and Scotland. *Fl.* June. ♂.—*Stem* 1—2 feet high. *Leaves* doubly pinnated, cut into linear segments, of which the lowermost are decussate. *Umbels* dense. *Carpels* agreeably aromatic, and well known in the kitchen and Pharmacopeia under the name of *Caraway seeds.*

2. C. *verticillátum*, Koch, (*whorled Caraway*); leaflets all capillary in short whorled segments.—*Sium verticillatum, E. Fl. v. ii. p.* 59.—*Sison verticillatum, Linn.*—*E. Bot. t.* 395. *Hook. Scot. i. p.* 90.

Unknown to England. In the flat parts of Wales, (*Huds.*) Killarney, and near Bantry Bay, Ireland, *Mr. J. T. Mackay.* Extremely abund-

ant in moist hilly pastures on the West of Scotland, especially near the sea. *Fl.* July, Aug. ♃.—*Leaves* mostly radical; a long common *petiole* bears a number of opposite multifid capillary *leaflets*, whose spreading makes them appear whorled. *Stem* a foot high, slender. *Umbels* few, terminal. *Involucre* very small.

56. Búnium. *Koch.* Earth-nut.

1. B. *flexuósum*, With. (*common Earth-Nut*). *E. Bot. t.* 988. *E. Fl. v. ii. p.* 54.—*Conopodium denudatum*, *Koch.*—*Bunium denudatum*, *De Cand.*—*B. Bulbocastanum*, *Huds.*—*Curt. Lond. t.* 24. *Hook. Scot. i. p.* 88.—*Myrrhis Bunium*, *Spreng.*

Woods and pastures, frequent. *Fl.* May, June, ♃.—*Root* a solitary *tuber*, much sought after by children and pigs. *Stem* solitary, erect, flexuose, with few *leaves* much divided into very slender, linear, or almost setaceous segments. *Fruit* oblong, moderately ribbed, a little narrower upwards, crowned with the strait *styles*, which have conical, very tumid bases. The true *Bunium Bulbocastanum* is a very different plant from this, and has never been found in Britain.

57. Pimpinélla. *Linn.* Burnet-Saxifrage.

1. P. *Saxífraga*, Linn. (*common Burnet-Saxifrage*); radical leaves pinnate their leaflets roundish sharply serrate or cut, those of the stem bipinnate linear. *E. Bot. t.* 407. *E. Fl. v. ii. p.* 89.

Dry pastures, frequent. *Fl.* July, Aug. ♃.—*Stem-leaves* few; lower and *radical* ones upon long stalks. *Leaflets* of the latter, (in specimens gathered by *Mr. Jas. Wilson*, in Ayrshire,) often deeply and pinnatifidly cut, and sometimes even bipinnatifid.

2. P. *mágna*, Linn. (*greater Burnet-Saxifrage*); leaves all pinnate, leaflets ovato-serrate subincised the terminal one (rarely the lateral ones) 3-lobed. *E. Bot. t.* 408. *E. Fl. v. ii. p.* 90.

Shady places, on a chalky or limestone soil, in several parts of England. Scotland, (*Herb. Bruce, in Sm.*) Near Cork, *Mr. J. T. Mackay.* Mucruss and Killarney, *Mr. W. Wilson.* *Fl.* July, Aug. ♃.—Larger in all its parts than the foregoing, and the *leaflets* of the upper *leaves* much broader and less divided.

58. Síum. *Linn.* Water-Parsnep.

1. S. *latifólium*, Linn. (*broad-leaved Water-Parsnep*); stem erect, leaves pinnated, leaflets oblongo-lanceolate equally serrated, umbels terminal. *E. Bot. t.* 204. *E. Fl. v. ii. p.* 56.

River-sides, ditches and watery places; rather rare in Scotland. *Fl.* July, Aug. ♃.—*Stems* 3—4 feet high, furrowed. *Fruit* small. *Leaflets* distant, 5—9 on a leaf.

2. S. *angustifólium*, Linn. (*narrow-leaved Water-Parsnep*); stem erect, leaflets unequally lobed and serrated, umbels pedunculate opposite to the leaves. *E. Bot. t.* 139. *E. Fl. v. ii. p.* 56.

Ditches and rivulets, frequent; not common in Scotland. *Fl.* July, Aug. ♃.—Smaller than the last. *Stem* striated: *leaflets* of the upper *leaves* most unequal and laciniated: *radical* ones ovate, their lowermost leaflets distant.

59. Bupleúrum. *Linn.* Hare's Ear.

1. B. *Odontítes*, Linn. (*narrow-leaved Hare's Ear*); universal and partial involucre each about 4—5-leaved, leaflets lanceolate cuspidate longer than the umbels, leaves linear 3-nerved, stem panicled. *E. Bot. t.* 2468. *E. Fl. v. ii. p.* 93.—*Odontites luteola*, *Spreng.*

Rocks in the neighbourhood of Torquay; on the Flag-Post Hill, Torquay, *Rev. J. S. Tozer. Fl.* July. ⊙.—A small plant, 3—6 inches or more, high, with rigid, striated. pale yellow-green, pungent *leaves. Flowers* in terminal, much involucrated *umbels.*

2. B. *rotundifólium*, Linn. (*common Hare's Ear, or Thorowwax*); universal involucre wanting, partial involucres mucronate, leaves perfoliate roundish-oval. *E. Bot. t.* 99. *E. Fl. v. ii. p.* 93.

Corn-fields in England, on chalky soil. Abundant about Swaffham, and in Cambridgeshire, *Rev. Prof. Henslow.* Streatley, in Berkshire, *J. S. Mill, Esq. Fl.* July. ⊙.

3. B. *tenuíssimum*, Linn. (*slender Hare's Ear*); stem very much branched, leaves linear, umbels lateral very minute few-flowered longer than the setaceous involucres. *E. Bot. t.* 478. *E. Fl. v. ii. p.* 94.

Salt-marshes on the south and east coasts of England. *Fl.* Aug. Sept. ⊙.—*Stems* very wiry, slender. *Leaves* remote, very sharp, mostly 3-nerved. *Umbels* inconspicuous, often sessile, axillary.

60. Œnánthe. *Linn.* Water-Dropwort.

1. Œ. *fistulósa*, Linn. (*common Water-Dropwort*); root stoloniferous, stem-leaves pinnated their main stalk as well as the stem cylindrical tubular, umbels of very few rays. *E. Bot. t.* 363. *E. Fl. v. ii. p.* 68.

Ditches and rivulets, common. *Fl.* July, Aug. 4.—*Plant* 2—3 feet high, remarkably tubular and fistulose. *Stem-leaves* distant; the *leaflets*, which are few and small, are confined to the upper extremity of the leaves. *Umbels* small. *Univ. involucre* often wanting.

2. Œ. *pimpinelloídes*, Linn. (*Parsley Water-Dropwort*); leaflets of the radical leaves wedge-shaped cloven, those of the stem linear entire very long, universal involucre of several linear leaves. *E. Bot. t.* 347. *E. Fl. v. ii. p.* 69.

Salt-marshes, not unfrequent; less common in Scotland, and principally confined to the West coast. *Fl.* July. 4.—2 feet or more high. *Umbellules* thickly crowded, forming almost sphærical heads when in fruit.

3. Œ. *peucedanifólia*, Poll. (*Sulphurweed Water-Dropwort*); leaflets all linear, universal involucre none, knots of the root sessile elliptical, (*Sm.*) *E. Bot. t.* 348. *E. Fl. v. ii. p.* 70.

Fresh-water ditches and bogs in Oxfordshire, Bedfordshire, and Suffolk. In Sussex, *Mr. Borrer. Fl.* June. 4.—Allied to the last; but found only, as it appears, near fresh water. The *roots*, Sir J. E. Smith tells us, taste like *parsneps*, but are probably dangerous.

4. Œ. *crocáta*, Linn. (*Hemlock Water-Dropwort*); leaves triquadripinnate, leaflets cuneato-ovate cut and serrated those of the

upper leaves narrower, general involucre of few leaves (abounding in a yellow juice.) *E. Bot. t.* 2313. *E. Fl. v. ii. p.* 71.

Watery places, by ditches and rivers; frequent. *Fl.* July. ♃.—*Root* consisting of large fusiform *tubers*. *Plant* 3—5 feet high: different from all the preceding in the great breadth of its *leaflets*, and large, much ramified *stems*, full, it is said, of a poisonous yellow juice.—Very nearly allied to this is the following species, which I introduce with some hesitation.

5. Œ. *apiifólia*, Brot. (*Celery-leaved Water-Dropwort*); radical and cauline leaves tripinnate upper ones pinnated, leaflets all wedge-shaped inciso-serrate striated; (no peculiar juices). *Brot. Fl. Lusit. v. i. p.* 420. *Spreng. Syst. Veget. v. i. p.* 889. *Br. Fl. ed.* 1.

About Plymouth, *Mr. Banks;* and elsewhere. *Fl.* July. ♃.—Specimens were sent to me some years ago by Mr. Banks and Mr. R. C. Sconce from the above station, of an *Œnanthe*, with the remark that it differed essentially from the common *Œ. crocata*, in having *no yellow fetid juice*. On afterwards visiting Prof. Brotero at Lisbon, Mr. Sconce was struck with the figure and description of *Œ. apiifolia* of that author, which he had there the opportunity of consulting, and he kindly wrote to assure me that he believed it to be identical with the Plymouth plant. This kind is now found to be universal, and it does not appear that any species gives out the copious yellow juice, attributed to *Œ. crocata*.

6. Œ. *Phellándrium*, Spreng. (*fine-leaved Water-Dropwort*); leaves decompound nearly uniform with narrow oblong short divaricated segments, peduncles lateral, general involucre scarcely any. *E. Fl. v. ii. p.* 71.—*Phellandrium aquaticum, Linn.—E. Bot. t.* 684. *Hook. Scot. i. p.* 92.

Ditches and pools. *Fl.* July. ♃.—*Stem* 2—3 feet high, very thick below, much branched; branches spreading. *Umbels* rather small; mostly perfect in every *flower*.

61. Æthúsa. *Linn.* Fool's Parsley.

1. Æ. *Cynápium*, Linn. (*common Fool's Parsley, or lesser Hemlock*); leaves uniform, leaflets wedge-shaped decurrent with lanceolate segments. *E. Bot. t.* 1192. *E. Fl. v. ii. p.* 64.

Fields and gardens. *Fl.* July, Aug. ⊙.—1 ft. high. *Stem* striated, branched, very leafy. *Leaves* glabrous, doubly, or the lower ones trebly, pinnate; segments ovato-lanceolate, variously cut. *Umbels* terminal, on long stalks. *Umbellules* small, distant. *Universal involucre* none; *partial involucres* of 3, long, pendent leaves all on one side, by which this is readily known from all other *umbelliferous plants*.—The smell is nauseous, and it is esteemed very unwholesome.

62. Fœnículum. *Hoffm.* Fennel.

1. F. *vulgáre*, Gærtn. (*common Fennel*); leaves biternate, leaflets linear-filiform pinnatifid, segments awl-shaped.—*Anethum Fœniculum, Linn.—E. Bot. t.* 1208.—*Meum Fœniculum, Spreng. E. Fl. v. ii. p.* 85.

Plentiful on chalky cliffs in England, near the sea, (*Sm.*) and in the

neighbourhood of towns and villages in Norfolk and Suffolk, at short distances from the coast. *Fl.* July, Aug. ♃.—*Stem* 3—4 feet high, fistulose. *Leaves* much divided, with very slender segments. *Flowers* dark yellow: at the base of the *styles* very glutinous.—This is the true *Fennel* of the Gardens, and its *seeds* are esteemed as carminative. The boiled *leaves* are served up with Mackarel on the eastern coasts of England.

63. Séseli. *Linn.* Meadow-Saxifrage.

1. S. *Libanótis*, Koch, (*mountain Meadow-Saxifrage*); stem furrowed, leaves bipinnatifid, leaflets incised the segments lanceolate very acute, umbels hemisphærical, universal involucre of many leaves.—*Athamanta Libanotis, Linn.—E. Bot. t.* 138. *E. Fl. v. ii. p.* 88.

Chalky pastures, very rare. Gogmagog hills, Cambridgeshire (*Ray*); and I possess fine specimens from the same county, through the kindness of my friend *Prof. Henslow*. Between St. Albans and Stony-Stratford, *Huds. Fl.* Aug. ♃.—*Root* fusiform, crowned with the fibrous bases of the old *leaves*. *Stem* 1½ to 2 feet high.—In some of the specimens from *Mr. Henslow*, one of the peduncles of the umbel is twice the length of the rest.

64. Ligústicum. *Linn.* Lovage.

1. L. *scóticum*, Linn. (*Scottish Lovage*); leaves twice ternate, leaflets subrhomboid dentato-serrate not glossy, general involucre of about 6 narrow leaves, calyx 5-toothed. *E. Bot. t.* 1207. *E. Fl. v. ii. p.* 82.

Rocky sea-coasts, in the north of England and Scotland, frequent. *Fl.* July. ♃.—*Root* fusiform, acrid but aromatic. *Stem* nearly simple. *Leaves* mostly radical; *leaflets* large, deeply-serrated, rather fleshy.—In the island of Skye this plant is eaten raw and called *Shunis*.—The true *Lovage*, common in gardens, *Ligusticum Levisticum* (now, the genus *Levisticum*), has truly winged *ridges* to the fruit, and fewer *vittæ*; but in other respects is nearly allied to this. It may, however, at once be known by its larger size, branched *stems*, and more compound shining *leaves*.

65. Siláus. *Besser.* Pepper-Saxifrage.

1. S. *praténsis*, Besser, (*meadow Pepper-Saxifrage*); leaves tripinnate, leaflets linear-lanceolate opposite, general involucre of 1 or 2 leaves.—*Peucedanum Silaus, Linn.—E. Bot. t.* 2142. *Hook. Scot. i. p.* 88.—*Cnidium Silaus, Spreng.—E. Fl. v. ii. p.* 91.

Pastures and meadows, not unfrequent in England. Near Oxenford Castle and Kelso, Scotland. *Fl.* July—Sept. ♃.—1—2 feet high. *Partial umbels* small, distant. *Flowers* pale yellow.—Whole plant fetid when bruised, apparently rejected by cattle.

66. Méum. *Tourn.* Spignel.

1. M. *athamánticum*, Jacq. (*Spignel, Meu*, or *Bald-money*); all the leaflets multipartite, segments bristle-shaped. *E. Bot. t.* 2249. *E. Fl. v. ii. p.* 86.—*Athamanta Meum, Linn.—Ligusticum Meum, Crantz.—Hook. Scot. i. p.* 89.

Dry alpine pastures, in the north of England and Scotland; especially in the Highlands, frequent. *Fl.* June, July. ♃.—*Root* fusiform, eaten by the Highlanders as an aromatic and carminative: at its summit are the fibrous remains of former years' leaves. *Leaves* long, dark-green, doubly-pinnate. *Flowers* yellowish.—Remarkable for its setaceo-multifid leaf and powerfully aromatic smell. *Bald*, or *Bald-money*, is a corruption of *Balder*, the *Apollo* of the northern nations; to whom this plant was dedicated.

67. Crithmum. *Linn.* Samphire.

1. C. *marítimum*, Linn. (*Sea Samphire*); leaflets lanceolate fleshy, leaves of the involucre ovate. *E. Bot. t.* 819. *E. Fl. v. ii. p.* 74.

Rocks by the sea-side: rare in Scotland, found only, I believe, on the coast of Galloway and thence northward to Colzean Castle, Ayrshire, whence I have numerous specimens sent by *Mr. Jas. Wilson;* and at Aberlady, Haddingtonshire, *Mr. J. Ferme. Fl.* Aug. ♃.—Whole plant very succulent, pale green. *Leaves* bi-triternate.—When the process of drying this plant for the Herbarium is aided by immersion in hot water, a number of white dots, as *Mr. W. Wilson* observes, make their appearance on the surface, which are quite opaque. *Samphire* makes a warm aromatic pickle, and is sold for this purpose in England; being very superior to the *Salicornia herbacea*, which often passes under the name of *Samphire*, and is used in the same way.

68. Angélica. *Linn.* Angelica.

1. A. *Archangélica*, Linn. (*garden Angelica*); terminal leaflet lobed, seed free marked with numerous vittæ. *E. Bot. t.* 2561. *E. Fl. v. ii. p.* 80.—*Archangelica officinalis, Hoffm.*

Watery places, rare; scarcely of British origin. Near Birmingham; upon the Thames' side, near Dorking, *Mr. J. S. Mill;* also in Durham, *Mr. Backhouse. Fl.* June—Sept. ♂.—*Stem* 4—5 feet high, and from 1—2 inches in the thickest diameter, glabrous, fistulose. *Leaves* bipinnate; *flowers* greenish-white.—*Candied Angelica*, a well-known article in confectionary, consists of the prepared stalks of this plant, and in that state is agreeable; otherwise, though aromatic, the flavour is too powerful and pungent to be pleasant. It is called *Archangelica*, ἀρχή implying its imagined superiority in virtue to the following species.

2. A. *sylvéstris*, Linn. (*wild Angelica*); leaflets equal ovate serrated at the base somewhat lobed, fruit with the interstices of the ridges having single vittæ. *E. Bot. t.* 1128. *E. Fl. v. ii. p.* 81.

Moist woods and marshy places, especially near rivers, frequent. *Fl.* July. ♃.—*Plant* 2—3 feet high. *Stem* purplish, pubescent above, as well as the *umbels*.—Inferior in its qualities to the former species.

69. Peucédanum. *Linn.* Hog's Fennel.

1. P. *officinále*, Linn. (*Sea Hog's Fennel*, or *Sea Sulphur-weed*); leaves 5 times tripartite, leaflets linear-filiform flaccid, involucres few linear deciduous. *E. Bot. t.* 1767. *E. Fl. v. ii. p.* 99.

In salt-marshes, very rare. In Kent and Sussex; on the coast of

Essex, *Mr. Jonathan Grubb. Fl.* July—Sept. 4.—Remarkable for its large *umbels* of yellow *flowers*, and its long and extremely narrow *leaflets*. The whole plant, especially the *root*, has a strong sulphureous smell, and the latter yields a resinous substance, reckoned stimulant, but of dangerous internal use.

2. P. *palústre*, Mœnch, (*Marsh Hog's Fennel*, or *Milk Parsley*); milky, leaves ternately decompound, leaflets opposite pinnatifid, segments linear-lanceloate with a hard point, rays of the umbel rough, involucres of many persistent lanceolate leaves.—*Selinum palustre*, *E. Bot. t.* 229. *E. Fl. v. ii. p.* 97.

Marshy and boggy places, but apparently very local. Yorkshire and Lancashire, about Norwich and the Isle of Ely. Ardincaple on the Clyde, *Mr. Hopkirk. Fl.* July. 4 or ♂.—4—5 feet high, with very compound *leaves*; abounding in a milky juice, which dries to a brown resin. The *root* is said to be used by the Russians instead of Ginger.

3. P. *Ostrúthium*, Koch, (*broad-leaved Hog's Fennel*, or *Master-Wort*); leaves biternate, leaflets broadly ovate lobed inciso-serrate unequal at the base, sheaths very large, fruit with a very broad margin, universal involucre none. *Lindl. Syn.* p. 116.—*Imperatoria Ostruth. Linn.—De C.—E. Bot. t.* 1380. *E. Fl. v. ii. p.* 78.

Moist pastures, and in various parts of Scotland; but generally in suspicious places, the plant having been formerly much cultivated as a pot-herb. *Fl.* June. 4.—*Flowers* white. *Partial involucres* several, subulate. De Candolle still keeps this distinct from *Peucedanum*, on account of the obsolete calyx.

70. Pastináca. *Linn.* Parsnep.

1. P. *satíva*, Linn. (*common wild Parsnep*); leaves pinnate downy beneath, leaflets ovate cut and serrated ultimate one 3-lobed. *E. Bot. t.* 556. *E. Fl. v. ii. p.* 101.

Borders of fields and pastures in a chalky soil. About Cambridge, *Rev. Prof. Henslow.* Crosby, by Liverpool, *Mr. W. Wilson.* Chalky, and sometimes gravelly soils in S.E. of England, *J. S. Mill, Esq.* Abundant in Essex, *E. Forster, Esq. Fl.* July. ♂.—*Root* fusiform; the origin of our garden *Parsnep*. *Leaves* generally shining. *Petals* very convex, involute, yellow.

71. Heráckleum. *Linn.* Cow-Parsnep.

1. H. *Sphondýlium*,[1] Linn. (*common Cow-Parsnep* or *Hog-weed*); leaves pinnated rough hairy, leaflets pinnatifid cut sinuated ultimate one somewhat palmated, petals unequal, fruit glabrous. *E. Bot. t.* 939. *E. Fl. v. ii. p.* 102.—*β.* leaves more deeply cut, lobes narrower. *E. Fl. v. ii. p.* 102.—*H. angustifolium*, *Sm. Fl. Brit. p.* 307. *Jacq. Austr. v. ii. t.* 173. (not *Linn.*)

Hedges, pastures and bushy places, frequent. *Fl.* July. ♂.—A coarse rank weed, 4—5 feet high. *Leaves* largely serrated, sheaths inflated.—

[1] From σπονδυλος, the *vertebræ* of the back, to which the jointed stems were fancied to bear some resemblance.

Hogs are fond of this plant, and it is said to be wholesome and nourishing for cattle in general.

72. Tordýlium. *Linn.* Hart-wort.

1. T. *officinále*, Linn. (*small Hart-wort*); 2 outer petals of the flowers of the ray each with one very large lobe, involucres setaceous as long as the umbels, fruit with the thickened border beautifully crenated and glabrous. *E. Bot. t.* 2440. *E. Fl. v. ii. p.* 114. —*Condylocarpus, Koch.*

Near London? *Ray* and *Petiver*. *Fl.* June, July. ⊙.—Hairy, 1 foot high: *leaflets* few, ovate, lobed and notched, upper ones confluent. *Flowers* beautiful, with the outer large lobes of the *petals* white. *Fruit* rough on the surface, with a very thick, pale, deeply notched or almost beaded border.

2. T. *máximum*, Linn. (*great Hart-wort*); 2 outer petals of the flowers of the ray each with 2 equal lobes, involucre linear shorter than the umbel, fruit with the thickened border scarcely notched and as well as the disk rough with appressed hairs. *E. Bot. t.* 1173. *E. Fl. v. ii. p.* 105.

Rare in waste ground, about London, Oxford, and Eton. *Fl.* June, July. ⊙.—Much taller than the last, and with a greater number of more lanceolate *leaflets*. *Involucre* very short. *Petals*, all, comparatively small, rose-coloured.

73. Daúcus. *Linn.* Carrot.

1. D. *Caróta*, Linn. (*wild Carrot*); bristles of the seed slender, leaves tripinnate, leaflets pinnatifid, segments linear-lanceolate acute, umbels with a solitary coloured abortive flower in the centre, when in seed concave. *E. Bot. t.* 1174. *E. Fl. v. ii. p.* 39.

Pastures and borders of fields, very frequent. *Fl.* July. ♂.—This is the origin of our *garden Carrot*; a name derived, as Théis tells us, from *Car*, red, in Celtic; whence also comes *Garance*, the French name for the red Madder-roots, and our words *carmine* and *carnation*, also, as I presume. Professor Henslow finds a *var.* with viviparous fl., near Cambridge.

2. D. *marítimus*, With. (*Sea-side Carrot*); bristles of the seed flattened, leaves tripinnate, leaflets pinnatifid lanceolate fleshy, segments rounded, umbels destitute of abortive flower, convex when in seed. *E. Bot. t.* 2560. *E. Fl. v. ii. p.* 40.—*D. Carota*, γ. *Fl. Brit. p.* 300. *Spreng.*

Sea coast of Kent and Cornwall. Anglesea, *Mr. W. Wilson*. Island of Lismore, Scotland, *Rev. C. Smyth*. Ireland, *Mr. J. T. Mackay*.—*Fl.* July, Aug. ♂.—Smaller than the preceding, with broader and more fleshy *leaves;* but I fear scarcely permanently distinct.

74. Caúcalis. *Linn.* Bur-Parsley.

1. C. *daúcoides*, Linn. (*small Bur-Parsley*); leaves bi-tripin-

natifid, segments short, umbels of few rays, general involucre none, partial umbels of few flowers, their involucres of about 3 small leaves. *E. Bot. t.* 197. *E. Fl. v. ii. p.* 41.

Cornfields, on a chalky soil, principally in the east and south-east of England. *Fl.* June. ⊙.—*Peduncles* lateral and terminal.

2. C. *látifolia*, Linn. (*great Bur-Parsley*); hispid, leaves pinnate, leaflets decurrent pinnatifid and serrate, involucres ovate membranous. *E. Bot. t.* 198. *E. Fl. v. ii. p.* 41.—*Turgenia latifolia, Koch.—Tordylium, Linn.*

Fields in a chalky soil, rare; abundant in Cambridgeshire. *Fl.* July. ⊙.—A very striking plant, and entirely different from the preceding. *Leaves* broad for this tribe of *Umbelliferæ*, and comparatively little divided. *Flowers* rose-coloured, large; *fruit* large and abundantly aculeated.

75. Torílis. *Adans.* Hedge-Parsley.

1. T. *Anthríscus*, Gærtn. (*upright Hedge-Parsley*); stem erect branched, leaves bipinnate, leaflets lanceolate inciso-serrate attenuate, umbels terminal, involucres of many small subulate leaves. *E. Fl. v. ii. p.* 48.—*Caucalis Anthriscus, Huds.—E. Bot. t.* 987.

Hedges and waste places. *Fl.* July. ⊙.—*Stems* 2—3 feet high. *Fruit* densely clothed with incurved bristles.

2. T. *infésta*, Spr. (*spreading Hedge-Parsley*); leaves bipinnate, leaflets ovate inciso-pinnatifid serrated, general involucre of one, partial of few subulate leaves. *E. Fl. v. ii. p.* 43.—*Caucalis infesta, Curt.—E. Bot. t.* 1314.—*C. helvetica, Gmel.—Spreng.*

Fields and way-sides, common. *Fl.* July. ⊙.

3. T. *nodósa*, Gærtn. (*knotted Hedge-Parsley*); stem prostrate, umbels lateral simple subsessile, fruit sometimes warted. *E. Fl. v. ii. p.* 44.—*Caucalis nodosa, E. Bot. t.* 199.—*Tordylium nodosum, Linn.*

Waste places by road-sides, frequent; especially in dry, gravelly or chalky soils. *Fl.* May, June. ⊙.—*Leaves* bipinnate; *leaflets* ovate, pinnatifid, segments linear, acute, short. *Umbels* capitate, opposite the base of a leaf. *Flowers* reddish. *External fruits* of the umbel most bristly, *inner* ones partially tubercled.

76. Scándix. *Linn.* Shepherd's-Needle.

1. S. *Pécten*, Linn. (*Needle Chervil, Venus' Comb, or Shepherd's-Needle*); fruit roughish, leaflets cut into many linear short segments. *E. Bot. t.* 1396. *E. Fl. v. ii. p.* 48.

Corn-fields, abundant. *Fl.* June, July. ⊙.—*Stem* 4—6 inches to a foot high, roughish. *Leaves* triply pinnate. *Umbels* of very few rays, 2—3. *Partial involucres* pinnatifid, or bipinnatifid. *Fruit* of singular appearance, and very large in proportion to the size of the plant and of the flowers that produce it.

77. ANTHRÍSCUS. *Pers.* Beaked-Parsley.

* *Carpels smooth.*

1. A. *sylvéstris*, Koch, (*wild beaked-Parsley*); umbels terminal stalked, stem a little swelling below each joint glabrous.—*Chærophyllum sylvestre, Linn.—E. Bot. t.* 752. *E. Fl. v. ii. p.* 48.

Under the hedges and borders of fields, frequent. *Fl.* April, June. ♃.—3 feet or more high, branched. *Leaves* triply pinnate; *leaflets* ovato-lanceolate, deeply cut. *Umbels* at first slightly drooping. *Partial involucres* of several ovato-lanceolate leaves. *Fruit* linear-oblong, with a much less evident *beak* than in *A. Cerefolium*. This beak, alone, is marked with a few ribs.

2. A. *Cerefólium*, Koch, (*Garden beaked-Parsley*); umbels lateral sessile, leaves tripartite decompound, leaflets ovate pinnatifid the segments obtuse.—*Scandix Cerefolium, Linn.—E. Bot. t.* 1268.—*Chærophyllum sativum, Hook. Scot. i. p.* 93. *E. Fl. v. ii. p.* 48.

Hedges and about gardens, whence it has perhaps generally escaped. *Fl.* July. ⊙.—*Stem* slender, 1½—2 feet high. *Leaves* pale yellow-green, delicate. *Umbels* sessile, lateral, of few rays, pubescent. *Partial involucres* of few leaves, about 3, unilateral, linear. *Umbellules* small. *Fruit* large, perfectly glabrous, linear, tapering upwards.—Known as a salad and pot-herb under the name of *Garden Chervil.*

** *Carpels muricated.*

3. A. *vulgáris*, Pers. (*common beaked-Parsley*); stem smooth, leaves ternately decompound the segments obtuse, umbels opposite the leaves, fruit ovately conical hispid about twice as long as the glabrous beak. *Hook. Scot. i. p.* 93. *E. Fl. v. ii. p.* 45.—*Scandix Anthriscus, E. Bot. t.* 818.

Waste places, by road-sides, especially near towns and villages. *Fl.* May, June. ⊙.—2 feet or more high, swelling under each joint. *Leaves* slightly hairy. *Partial umbels* small, with small *involucres*. *Fruit* rather large, with a distinct furrow on each side which extends to the *beak*, covered with hooked bristles.

78. CHÆROPHÝLLUM. *Linn.* Chervil.

1. C. *temuléntum*, Linn. (*Rough Chervil*); fruit with obtuse ribs, stem rough (spotted) swelling below each joint, partial involucres reflexed. *E. Bot. t.* 1521.—*Myrrhis temulenta, E. Fl. v. ii. p.* 51.—*M. temula, Spreng.*

Hedges and copses, common. *Fl.* June, July. ♃.—3 feet or more high: rough with hairs. *Leaves* doubly pinnate; *leaflets* pinnatifid or inciso-lobate. *Fruit* linear-oblong, striated. *Umbels* at first drooping.

2. C. *aúreum*, Linn. (*tawny-seeded Chervil*); pubescent, fruit with obtuse ribs coloured, stem slightly swelling below the joints, leaflets very acuminate inciso-pinnatifid. *E. Bot. t.* 2103.—*Myrrhis aurea, Spreng.—E. Fl. v. ii. p.* 52.

Fields, between Arbroath and Montrose. Near Corstorphine, Edinburgh, *Mr. G. Don. Fl.* June. 4.—3 feet or more high, branched, aromatic. *Leaves* tripinnate; *leaflets* peculiarly attenuated, at least on the upper leaves (for the *radical* ones are more obtuse), a character which distinguishes this from every other British species.

3. C. *aromáticum*, Linn. (*broad-leaved Chervil*); fruit with obtuse ribs, leaves subternate bipinnate, leaflets ovato-oblong subacuminate serrate undivided. *Don's Descr. of rare Scot. Pl. p.* 7. *Hook. Scot. i. p.* 94. *Don in E. Bot. Suppl. t.* 2636.—*Myrrhis aromatica, Spreng.—E. Fl. v. ii. p.* 52.

Road-side near Guthrie, leading from Forfar to Arbroath. *Mr. G. Don. Fl.* June. 4.—2—3 feet high, slightly pubescent below, glabrous above. *Leaves* biternate; *leaflets* large, undivided or rarely with a small lobe near the base, pubescent beneath. In this, as well as in *C. aureum*, there is sometimes a small *general involucre*. *Leaves*, as Persoon observes, resembling those of *Ægopodium Podagraria*; their smell is aromatic, (*Mr. G. Don.*)

79. Mýrrhis. *Tourn.* Cicely.

1. M. *odoráta*, Scop. (*sweet Cicely*); fruit large with very sharp ribs and deep furrows between them. *E. Fl. v. ii. p.* 50.—*Scandix odorata, Linn.—E. Bot. t.* 697. *Hook. Scot. i. p.* 93.

Pastures in mountainous countries, especially in the north of England and Lowlands of Scotland, generally near houses. *Fl.* May, June. 4.—Whole plant highly aromatic, 2 feet and more high. *Leaves* large, triply pinnate; *leaflets* pinnatifid, ovato-lanceolate, inciso-serrate. Many of the *partial umbels* of this species, especially the inner ones, and sometimes even entire *umbels*, prove abortive. The *fruits* are remarkable for their large size and powerful fragrance, and, as Sir J. E. Smith well observes, make a part of the humble luxuries and simple medicines of the mountain cottager.

80. Echinóphora. *Linn.* Prickly Samphire.

1. E. *spinósa*, Linn. (*Sea-side Prickly Samphire or Sea-Parsnep*); leaves bipinnatifid the segments trifid subulate spinous, involucres entire spinous. *E. Bot. t.* 2413. *E. Fl. v. ii. p.* 38.

Sandy sea-shores. Found, many years ago, in Lancashire and Kent; but now apparently extinct. *Fl.* July. 4.—A very prickly and singular plant; but now I fear quite lost as a native of Britain.

81. Conium. *Linn.* Hemlock.

1. C. *maculátum*, Linn. (*common Hemlock*); stem glabrous spotted, leaves tripinnate, leaflets lanceolate pinnatifid with acute and often cut segments. *E. Bot. t.* 1191. *E. Fl. v. ii. p.* 65.

Waste places, banks, and under walls, not unfrequent. *Fl.* June, July. ♂.—*Root* fusiform. *Stem* 2—4 feet high, striated and spotted with purple, much branched upwards. *Leaves* large, much divided, when bruised extremely fetid, yielding an extract which has been extensively employed both in the cure of scrophulous and cancerous maladies, and

for the purpose of lowering the pulse. So powerful a plant should be carefully discriminated from its allies; and it is best distinguished by its spotted stem, fetid smell, and by the unilateral partial involucres, together with the waved ridges of the fruit.

82. Physospérmum. *Cuss.* Bladder-seed.

1. P. *cornubiénse*, (*Cornish Bladder-seed*).—*P. aquilegifolium, Koch.—P. commutatum, Spreng. Umbell. Spec. p.* 22. *t.* 4. *f.* 8, *and f.* 7.—*Danaa aquilegifolia, All. Ped. n.* 1392. *t.* 63.—*Ligusticum aquilegifolium, Willd. Sp. Pl. v. i. p.* 1425.—*L. cornubiense, Linn. Sp. Pl. p.* 35. *t.* 4. *E. Bot. t.* 683. *E. Fl. v. ii. p.* 82.—*Smyrnium tenuifolium nostras, Dill. in Raii Syn. p.* 209. *t.* 8. (*fig. bad.*)

Bushy fields in Cornwall; about Bodmin, and only there, *Rev. J. S. Tozer. Fl.* July. ♃.—*Stem* a foot and a half to 2 feet high, erect, striated, glabrous, panicled above. *Leaves* mostly radical, on long stalks, triternate; *leaflets* wedge-shaped, cut and laciniated or deeply tripartite, the segments acute, glabrous or minutely downy on the veins and margins. *Cauline leaves* few, small, less divided, the segments longer and slenderer. *Umbels* on long terminal stalks, of 10—12 spreading, lax rays. *Universal* and *partial involucres* of from 1—4 or 5 lanceolate, somewhat membranaceous leaves. *Partial umbels* spreading, rather lax, of many *flowers;* of which several in the centre bear only *stamens* and are consequently abortive. *Cal.* evident. *Petals* rather long, almost unguiculate, white. *Germen* ovato-globose, laterally compressed, furrowed, *ovules* very loose within. *Fruit* almost globose, laterally compressed, and contracted between the *carpels*, so as to be didymous. *Carpels* reniformi-globose, with 5 *ridges* and 4 broad, brown *vittæ;* the coat crustaceous and so loose that the *seed* is loose within: a transverse section of this seed is crescent-shaped. In the first edition of this work, I have fully given my reasons for referring to this plant the *P. aquilegifolium* of *Koch.*

83. Smýrnium. *Linn.* Alexanders.

1. S. *Olusátrum,* Linn. (*common Alexanders*); cauline leaves ternate petiolate serrate. *E. Bot. t.* 230. *E. Fl. v. ii. p.* 76.

Waste ground and among ruins, especially near the sea; not unfrequent. *Fl.* May, June. ♂.—*Stem* 3—4 feet high, very stout, furrowed. *Leaves* bright yellow-green; twice or (the lower ones) thrice ternate, with a very broad membranous base: *leaflets* very large, broadly ovate, lobed and serrated. *Flowers* yellow-green, in very dense, numerous, rounded *umbels*. *Involucres* none. *Fruit* almost black when ripe.—Aromatic, but too strong and pungent to be agreeable. It was formerly used as a potherb, and takes its specific name from *Olus*, a *potherb*, and *ater*, *black;* in allusion, apparently, to the black colour of the fruit.

84. Coriándrum. *Linn.* Coriander.

1. C. *satívum*, Linn. (*common Coriander*). *E. Bot. t.* 67. *E. Fl. v. ii. p.* 67.

Fields and waste places, in the neighbourhood of which it had form-

erly been cultivated, about Ipswich and in Essex. *Fl.* June. ⊙.—This is the only true species of the genus, and is well known as a medicinal plant. The *seeds* are highly aromatic, and sold enveloped in sugar as *Coriander comfits*. *Stem* erect, leafy. *Lower leaves* bipinnate; the pinnæ pinnatifid with broad, wedge-shaped, toothed segments: the upper leaves gradually more compound, with the segments very narrow and linear, those of the uppermost leaves nearly setaceous. *Fruit* very curious: each *carpel* is hemisphærical; on its inner and flat side having a projecting margin, which combines with the opposite one so as to leave no line or furrow between the two, and they form a complete little ball or globe; having, however, when quite ripe, 10 obscure elevated lines or ribs.

85. Chenopódium. *Linn.* Goose-foot.

* *Leaves semicylindrical; flowers with two bracteas each.*

1. C. *fruticósum*, Schrad. (*shrubby Sea-side Goose-foot*); leaves semicylindrical, styles often 3 combined at the base, stem shrubby.—*Salsola fruticosa, Linn.—E. Bot. t.* 635. *E. Fl. v. ii. p.* 18.

On the Norfolk coasts, especially at Cley; and those of Suffolk, Dorsetshire, Devonshire and Cornwall: but rare. *Fl.* July, Aug. ♃.—3 f. and more high, with many erect, leafy *branches*. *Flowers* in small axillary clusters, sometimes solitary. *Calyx* unchanged in fruit, as in the following species.

2. C. *marítimum*, Linn. (*annual Sea-side Goosefoot*); leaves semicylindrical a little tapering upwards, styles 2, stem herbaceous. *E. Bot. t.* 633. *E. Fl. v. ii. p.* 16.

Sea-shore, frequent. *Fl.* July, Aug. ⊙.—This has quite the habit of the last species: but is greatly smaller and an annual. *Flowers* solitary or two in the axils of the *leaves*, and each subtended by two small, ovate, acute, narrow *bracteas*.

** *Leaves plane, undivided; bracteas under each flower none.*

3. C. *ólidum*, Curt. (*stinking Goose-foot*); leaves ovato-rhomboid entire, flowers in dense clustered spikes, stem diffuse. *E. Bot. t.* 1034. *E. Fl. v. ii. p.* 14.—*C. Vulvaria, Linn.*

Waste places and under walls, especially near the sea. *Fl.* Aug. ⊙.—*Leaves* small, petiolate, greasy to the touch and covered with a pulverulent substance, which, when bruised, yields a detestable odour, resembling that of putrid fish.

4. C. *polyspérmum*, Linn. (*many-seeded Goose-foot*); leaves ovate entire, spikes elongated subcymose. *Hook. Scot. i. p.* 83.—α. stems all prostrate, leaves obtuse, spikes cymose leafless. *C. polyspermum, E. Bot. t.* 1480. *E. Fl. v. ii. p.* 15.—β. stem erect, leaves acute, spikes leafy scarcely cymose. *C. polyspermum, Curt. Lond. t.* 17.—*C. acutifolium, E. Bot. t.* 1480. *E. Fl. v. ii. p.* 15.

α. Cornwall.—β. not unfrequent in waste places and among rubbish. *Fl.* Aug. Sept. ⊙.—The spikes of *flowers* are more or less cymose, leafy and leafless, upon the same individual: and I can by no means assent to the opinion that the *C. acutifolium* is permanently distinct from

C. polyspermum, of which Wallroth, an excellent observer, says "variat foliis ovatis, obtusis, emarginatis, rubro-marginatis, acutis, cymis aphyllis et foliosis expansis." It is remarkable for the very numerous, dark brown, shining *seed-vessels*, in part only enveloped by the calyx.

** *Leaves plane, toothed, angled or lobed; bracteas none.*

5. C. *Bonus Henrícus*, Linn. (*Mercury Goose-foot or good King Henry*); leaves triangular arrow-shaped entire, spikes compound terminal and axillary erect leafless. *E. Bot. t.* 1033. *E. Fl. v. ii. p.* 10.

Waste places and way-sides; frequent. *Fl.* Aug. ♃.—*Stems* 1 foot high, striated. *Leaves* large, dark green.—Used, when boiled, instead of *spinach*.

6. C. *úrbicum*, Linn. (*upright Goose-foot*); leaves triangular toothed, spikes long erect approaching the stem subsimple nearly leafless, flowers scattered on the spikes. *E. Bot. t.* 717. *E. Fl. v. ii. p.* 10.

Waste places, under walls, and about towns and villages. *Fl.* Aug. ⊙.—*Stem* erect, angular. *Leaves* large, truncate or subcuneate at the base, of a light or subglaucous green, their margins deeply and irregularly toothed. *Flowers* on the spikes, in rather small, but remote, clusters; *spikes* very long and erect. *Seeds* (or *fruits*) large in comparison with those of the following species, "almost as big as rape-seed," (*Curtis.*)

7. C. *rúbrum*, Linn. (*red Goose-foot*); leaves triangular somewhat rhomboid toothed and serrated, spikes erect compound leafy, flowers crowded on the spikes, fruit very minute. *E. Bot. t.* 1721. *E. Fl. v. ii. p.* 11.

Dunghills and under walls. *Fl.* Aug. Sept. ⊙.—Of a darker green than the last. *Stems* frequently reddish. *Leaves* always more or less attenuated at the base, by no means truncate. *Spikes* very compound, thick.—The salt (or alkali) contained in the juice of this plant crystallizes upon the surface of the stem (*Mr. W. Wilson.*)

8. C. *botryódes*, Sm. (*many-spiked Goose-foot*); "leaves triangular shortly attenuated at the base scarcely toothed, spikes erect compound leafy." *E. Bot. t.* 2247. *E. Fl. v. ii. p.* 11.

At Yarmouth, Norfolk, *Mr. Wigg*; and cliffs by the sea at Lowestoft, *Sir J. E. Smith.* Shore at South Shoebury, *Mr. E. Forster. Fl.* Aug. Sept. ⊙.—Much resembling the last, but smaller and less toothed in the margins of its *leaves*. This is quite different from the *C. Botrys* of *Linn.*

9. C. *murále*, Linn. (*nettle-leaved Goose-foot*); leaves ovate approaching to rhomboid acute toothed shining, spikes much branched cymose leafless. *E. Bot. t.* 1722. *E. Fl. v. ii. p.* 11.

Under walls and in waste places near towns and villages. *Fl.* Aug. ⊙.—Branches of the *spikes* spreading. *Flowers* rather distant. *Smell* unpleasant.

10. C. *hýbridum*, Linn. (*Maple-leaved Goose-foot*); leaves cor-

date angulato-dentate acuminate, spikes very much branched subcymose divaricated leafless. *E. Bot. t.* 1919. *E. Fl. v. ii. p.* 12.

Waste places and in cultivated fields, not common: about London, Colchester, Dedham, Ely, and Edinburgh. *Fl.* Aug. ⊙.—*Stems* slender. *Leaves* large, with very prominent teeth or angles. *Spikes* similar to the last, but the branches are more remote and spreading.

11. C. *álbum*, Linn. (*white Goose-foot*); leaves ovate inclining to rhomboid erose entire at the base, upper ones oblong perfectly entire, spikes branched somewhat leafy, fruit smooth. *E. Bot. t.* 1723. *E. Fl. v. ii. p.* 13.—*β.* leaves green more entire, spikes elongated more branched. *C. viride, Linn.*

Waste places, dunghills, &c. common. *Fl.* July. Aug, ⊙.—*Leaves* covered with a whitish and mealy substance, varying in their width, and in the erosion, or blunt toothing, of the upper half of their margins. When these are nearly entire, it is the *C. viride* of *Linn.*

12. C. *ficifólium*, Linn. (*fig-leaved Goose-foot*); leaves ovato-oblong toothed and sinuated at the margin somewhat hastate, upper ones oblong quite entire, fruit dotted. *E. Bot. t.* 1724. *E. Fl. v. ii. p.* 13.

Dunghills and waste ground, about London and Yarmouth. *Fl.* Aug. Sept. ⊙.

13. C. *glaúcum*, Linn. (*Oak-leaved Goose-foot*); leaves all oblong toothed and sinuated at the margin glaucous and mealy beneath, spikes compound leafless, seed very minutely dotted. *E. Bot. t.* 1434. *E. Fl. v. ii. p.* 14.

Waste ground, especially on a sandy soil about London. *Fl.* Aug. ⊙.

86. Béta. *Linn.* Beet.

1. B. *marítima*, Linn. (*Sea-Beet*); stems procumbent at the base, flowers solitary or in pairs, calycine segments entire. *E. Bot. t.* 285. *E. Fl. v. ii. p.* 17.

Sea shores, especially in a muddy soil, England; and the South, principally, of Scotland. *Fl.* Aug. ♃.—*Root* large, thick and fleshy. *Stem* tall, branched, angular. *Root-leaves* subovate, succulent, entire, waved. *Spikes* of *flowers* numerous, leafy; *leaves* small, at the base of each flower or pair of flowers, which are greenish.—De Candolle says this is biennial, and distinguishes it from the cultivated *Beet*, *B. vulgaris*, in having one or two, instead of 3—4 flowers, in the axil of the upper leaves. Smith observes that, according to Linnæus, it differs from *B. vulgaris* in the keel of the calyx being entire. The present is esteemed a wholesome food when boiled. Mr. W. Wilson finds that there are always 3 styles, and that the germen is 3-seeded, that the flowers are often 3 together, and that when the seed is ripe the germen becomes purple and granulated.

87. Sálsola. Linn. Saltwort.

1. S. *Káli*, Linn. (*prickly Saltwort*); stems herbaceous prostrate, leaves subulate spinous scabrous, segments of the perianth margined scariose. *E. Bot. t.* 634. *E. Fl. v. ii. p.* 18.

Sandy sea-shores, frequent. *Fl.* July. ⊙.—*Stem* angled, very much branched. *Flowers* solitary, pale-greenish, sessile, with three leaflike *bracteas* at the base of each.

88. Herniária. *Linn.* Rupture-wort.

1. H. *glábra*, Linn. (*glabrous Rupture-wort*); leaves and calyx glabrous or ciliated. *E. Bot. t.* 206. *E. Fl. v. ii. p.* 8.

Rare, about the Lizard, Cornwall, (*Ray*) whence I have specimens from the *Rev. J. S. Tozer*. Near Newmarket, *Rev. Mr. Hemsted*. *Fl.* June—Aug. ♃.—A small low, procumbent, shrubby plant. The "*root* penetrates deep into the soil for the size of the plant. *Stems* quite prostrate, taking root, subsequently to which all foliage disappears, and the stem is gradually converted into what appears to be a woody horizontal root." (*Tozer.*) *Stems*, at first slender, somewhat angular and hairy. *Leaves* opposite, ovate, nearly sessile, fringed almost constantly, as Mr. Tozer observes, with transparent white bristles. *Stipules* large, white, ovate, acute, membranaceous, ciliated. *Flowers* in dense, axillary, sessile clusters. *Cal.* green, somewhat striated, its segments ovate, concave, persistent, within which at the base is a fleshy perigynous disk, bearing 10 *filaments*, apparently all on the same line, 5 only having rounded *anthers*. *Capsule* indehiscent, bearing one *seed*.

2. H. *hirsúta*, Linn. (*hairy Rupture-wort*); leaves and calyx hairy. *E. Bot. t.* 1379. *E. Fl. v. ii. p.* 9.

Sandy ground near Barnet (*Hudson*,) probably not wild.—Sprengel has surely done well in uniting these two under the name of *H. vulgaris*. *Fl.* July, Aug. ♃.

89. Úlmus. *Linn.* Elm.

(With the English species of this genus, I confess myself not to be well acquainted: and Scotland, so far as I can ascertain, possesses but one really native kind, the *Broad-leaved Elm*, *Ulmus montana*. Mr. Lindley appears to have made them a particular object of his study, and on him I have relied for the following characters.)

1. U. *campéstris*, Linn. (*common small-leaved Elm*); leaves rhomboid-ovate acuminate wedge-shaped and oblique at the base, always scabrous above doubly and irregularly serrated, downy beneath, serrature incurved, branches wiry slightly corky, when young bright brown pubescent, fruit oblong deeply cloven naked. *Lindl. Syn. p.* 226. *E. Bot. t.* 1886. *E. Fl. v. ii. p.* 20.

Hampshire, Sussex, and especially in Norfolk, frequent. *Fl.* March, April. ♄.—A large *tree* with rugged *bark*. *Flowers* in dense heads, each subtended by a small scale or *bractea*. This yields the best wood of all the *Elms*, and is consequently employed for a great variety of purposes, particularly for articles that require to be exposed to moisture.—The Hertfordshire Elm is supposed by Mr. Lindley to be a *var.* of this.

2. U. *suberósa*, Ehrh. (*common Cork-barked Elm*); leaves nearly orbicular acute obliquely cordate at the base, sharply regularly and doubly serrated always scabrous above, pubescent below, chiefly

hairy in the axils, branches spreading bright brown, winged with corky excrescences, when young very hairy, fruit nearly round deeply cloven naked. *Lindl. Syn. p.* 226. *E. Bot. t.* 2161. *E. Fl. v. ii. p.* 21.—*U. campestris*, *Lightf. Scot. p.* 151. *Hook. Scot. i. p.* 85.

Hedges in all parts of England (*Sm.*), and in Scotland; but scarcely indigenous. *Fl.* March. ♄.—Remarkable for the cork-like covering to the branches, which is full of deep fissures.

3. U. *májor*, Sm. (*Dutch cork-barked Elm*); leaves ovato-acuminate very oblique at the base, sharply doubly and regularly serrated, always scabrous above, pubescent below with dense tufts of white hairs in the axils, branches spreading bright brown winged with corky excrescences, when young nearly smooth, fruit obovate slightly cloven naked. *Lindl. Syn. p.* 226. *E. Bot. t.* 2542. *E. Fl. v. ii. p.* 21.

Hedges in the neighbourhood of London, a doubtful native. (*Sm.*) *Fl.* March. ♄.—More corky in its bark even than the preceding, and probably not specifically distinct from it.

4. U. *carpínifolia*, Lindl. (*Hornbeam-leaved Elm*); leaves ovate acute coriaceous strongly veined simply crenate serrate slightly oblique and cordate at the base shining, but rather scabrous above, smooth beneath, branches bright brown nearly smooth, fruit —? *Lindl. Syn. p.* 226.

Four miles from Stratford-upon-Avon, on the road to Alcester; *Prof. Lindley.* ♄.

5. U. *glábra*, Mill. (*smooth-leaved Elm*); leaves ovato-lanceolate acuminate doubly and evenly crenato-serrate cuneate and oblique at the base becoming quite smooth above, smooth or glandular beneath with a few hairs in the axils, branches bright brown smooth wiry weeping, fruit obovate naked deeply cloven. *Lindl. Syn. p.* 226. *E. Bot. t.* 2248. *E. Fl. v. ii. p.* 23.—*β. glandulosa*; leaves very glandular beneath. *Lindl.*—*γ. latifolia*; leaves oblong acute very broad. *Lindl.*

Woods and hedges in Essex. In Scotland?—*β.* near Ludlow, *Prof. Lindley.*—*γ.* Claybury, Essex, *Mr. E. Forster.* *Fl.* March. ♄.—To this species Mr. Lindley thinks that the Downton Elm and Scampston Elm of the Nurseries may probably belong.

6. U. *stricta*, Lindl. (*Cornish Elm*); leaves obovate cuspidate cuneate at the base, evenly and nearly doubly crenato-serrate strongly veined coriaceous very smooth and shining above, smooth beneath with hairy axils, branches bright brown smooth rigid erect very compact, fruit —? *Lindl. Syn. p.* 227.—*β. parvifolia*; leaves much smaller less oblique at the base finely and regularly crenated acuminate rather than cuspidate. *Lindl.*

In Cornwall and North Devon;—*β.* less common. ♄.

7. U. *montána*, Bauh. (*broad-leaved* or *Wych Elm*); leaves obo-

vate cuspidate doubly and coarsely serrated cuneate and nearly equal at the base always exceedingly scabrous above, evenly downy beneath, branches not corky cinereous smooth, fruit rhomboid-oblong, scarcely cloven naked. *Lindl. Syn. p.* 227. *E. Bot. t.* 1887. *E. Fl. v. ii. p.* 22.—*U. campestris, Willd.*

Woods and hedges, frequent. Abundant in Scotland and certainly wild. *Fl.* March, Apr. ♄.—Distinguished at first sight by its large spreading *branches* and broad *leaves*, appearing just as the "hop-like fruit" comes to perfection. A variety is called the *weeping Elm*. The wood is of inferior quality. Of this species Mr. Lindley says that the *Giant Elm* and *Chichester Elm* are varieties. He observes, too, that it is often confounded by foreign Botanists with *U. pedunculata*, a very different species, not found in England, and closely related to *U. rubra* of N. America.

PENTANDRIA—TRIGYNIA.

90. Vibúrnum. *Linn.* Guelder-rose.

1. V. *Lantána*, Linn. (*mealy Guelder-rose or Wayfaring tree*); leaves elliptico-cordate serrated veined downy beneath. *E. Bot. t.* 331. *E. Fl. v. ii. p.* 107.

Woods and hedges, especially in a chalky or limestone soil. Dunglass glen, Scotland. *Fl.* June. ♄.—A large *shrub*, much branched, with the young shoots very downy. *Flowers* in large dense *cymes*, white. *Cal.* teeth very minute. *Berry* purplish-black.—The young shoots are much esteemed in the Crimea for the tubes of Tobacco pipes, (*Pallas.*).

2. V. *Ópulus*, Linn. (*common Guelder-rose, or Water Elder*); leaves glabrous three-lobed acuminate and serrate, petioles with glands. *E. Bot. t.* 332. *E. Fl. v. ii. p.* 107.

Woods and coppices, not unfrequent in England, and Scotland, as far north as Inverness, *Mr. G. Anderson*. *Fl.* June, July. ♄.—A small *tree*, very glabrous. *Leaves* large, subcordate, broad. *Cymes* large, with white *flowers*; the perfect ones small and resembling the last; abortive ones in the circumference, consisting of a very large, plane, 5-lobed *petal*, without either *stamen* or *pistil*. *Flowers* erect. *Berries* reddish-purple, drooping.

91. Sambúcus. *Linn.* Elder.

1. S. *Ébulus*, Linn. (*dwarf Elder or Dane-wort*); cymes with 3 principal branches, leaflets lanceolate, stipules foliaceous, stem herbaceous. *E. Bot. t.* 475. *E. Fl. v. ii. p.* 108.

Way-sides and in waste places, not uncommon in England and Scotland. Ireland, at Powerscourt, Lambay and Kenmare, *Mr. J. T. Mackay*. *Fl.* July. 4.—*Stem* 2—3 feet high, angular and furrowed. *Leaves* pinnate; *leaflets* serrated. *Cyme* large, terminal, purplish. *Anthers* large, purple. *Berries* sphærical, black.—The plant has a fetid smell and is violently purgative.

2. S. *nígra*, Linn. (*common Elder*); cymes with 5 principal branches, leaflets ovate, stem arboreous. *E. Bot. t.* 476. *E. Fl. v. ii. p.* 109.—β. leaves laciniated.

Woods, coppices, &c. frequent.—β. Near Ayr, *Mr. Jas. Wilson.* *Fl.* June. ♄.—A small *tree*, having the *stems* and *branches* full of pith. *Leaves* pinnate; *leaflets* serrated. *Cymes* terminal, large, cream-coloured, smelling unpleasantly. *Anthers* small, yellow. *Berries* purple-black, sometimes white.—The bark and flowers are used by country practitioners medicinally, and the fruit is employed for wines and preserves.

92. Staphyléa. *Linn.* Bladder-Nut.

1. S. *pinnáta*, Linn. (*common Bladder-nut*); leaves pinnated, petioles without glands, styles 2, capsules bladdered. *E. Bot. t.* 831. *E. Fl. v. ii. p.* 111.

Thickets and hedges in Yorkshire; truly indigenous (*Mr. Hailstone*) about Pontefract, but not certainly wild according to *Ray*. About Ashford, Kent, *Parkinson*. It is frequent in gardens. *Fl.* June. ♄.—A *shrub*, having the *leaves* pinnated with from 5—7, ovate, suddenly acuminated, finely serrated *leaflets*, and graceful, white, drooping *racemes* of *flowers*, which are succeeded by large and curious, obovate, bladdered *fruits*.

93. Támarix. *Linn.* Tamarisk.

1. T. *gállica*, Linn. (*French Tamarisk*); leaves minute amplexicaul appressed acute, spikes lateral somewhat panicled slender much longer than broad. *E. Bot. t.* 1318. *E. Fl. v. ii. p.* 112.

Rocks, cliffs and sandy shores by the sea about the Lizard and St. Michael's, Cornwall; where Mr. Tozer tells me it is scarcely wild, though naturalized in many parts of the county and plentiful. It is called "*Cypress*" by the common people; *Rev. J. S. Tozer*. About Hurst Castle and Hastings. Near Languard Fort: but evidently planted. *Fl.* July. ♄.—A slender upright-growing *shrub*, with red *branches*, glaucous *leaves*, pink spikes of *flowers* and comose *seeds*.—Frequent in shrubberies.

94. Corrigíola. *Linn.* Strapwort.

1. C. *littorális*, Linn. (*Sand Strapwort*); stem leafy among the flowers. *E. Bot. t.* 668. *E. Fl. v. ii. p.* 113.

Rare on the south-western coast of England. On Slapham sands and near the Star-point, Devon; and at Helston, Cornwall. *Fl.* July, Aug. ☉.—*Stems* numerous from the top of the root, spreading, slender. *Leaves* linear, obtuse, somewhat fleshy and very glaucous. *Stipules* small, membranaceous, white. *Flowers* small, in branching axillary small clusters, from the axils of the upper leaves.

PENTANDRIA—TETRAGYNIA.

95. Parnássia. *Linn.* Grass of Parnassus.

1. P. *palústris*, Linn. (*common Grass of Parnassus*); bristles of the nectary 9—13, leaves cordate, cauline one amplexicaul. *E. Bot. t.* 82. *E. Fl. v. ii. p.* 114.

Bogs and wet places; frequent in the north. *Fl.* Aug.—Oct. 4.—*Leaves* mostly radical, on long footstalks, cordate, entire, nerved; one

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Christ.r Ranny found this plant a few days ago at Milpirt and sent it to Glasgow where it now grows in the back garden Moore place— Mr Ranny & I identified it this evening.

on the stem below the middle, sessile. *Stem* angular, from 1 inch (as I have seen it in N. Ronaldsha, Orkney, with perfect flowers) to 8—10 inches high. *Flowers* solitary, terminal, large, yellowish-white, handsome. *Petals* broadly obovate. *Nectaries*, each an obcordate scale, opposite the petals, fringed with white hairs along the margin which are terminated by a yellow pellucid globular gland.

PENTANDRIA—PENTAGYNIA.

96. Státice. *Linn.* Thrift.

* *Flowers collected into a rounded head.* (Armeria, *De Cand.*)

1. S. *Arméria*, Linn. (*common Thrift, or Sea-Gilliflower*); leaves linear, scape simple bearing a rounded head, awns of the calyx short. *E. Bot. t.* 226. *E. Fl. v. ii. p.* 115.

Muddy sea-shores, among rocks by the sea-side and upon the tops of our highest mountains. *Fl.* July, Aug. ♃.—*Leaves* all radical, numerous. *Heads of flowers* rose-coloured, white in Cornwall (*G. E. Smith*), intermixed with scales, and having, besides, a brown, membranous, 3-leaved *involucre*, terminating below in a sheathing, jagged covering to the upper part of the scape.

** *Flowers unilateral on a paniculated scape.* (Taxanthema, *Neck. Br.*)

2. S. *Limónium*, Linn. (*spreading-spiked Thrift or Sea Lavender*); leaves elliptic-lanceolate stalked mucronate single-ribbed, scape angular with a much branched spreading corymb at the top, calyx with deep acute plaited segments and intermediate teeth. *E. Bot. t.* 102. *E. Fl. v. ii. p.* 116, (*excl. syn.* β.)

Frequent on the muddy shores and salt-marshes of England and Ireland: rare in Scotland, and confined, I believe, to the southern coasts. *Fl.* July, Aug. ♃.—*Leaves* 4 inches to a span high, ½ or ¾ths as tall as the scape, single-ribbed with lateral oblique veins, mucronated: the mucro is recurved, being "a continuation of the margin of the leaf, and is channelled. *Scape* angular, often furrowed above, with a coarse uneven surface." *Panicle* truly corymbose and level-topped, with spreading, or sometimes, recurved branches, in which respect it differs remarkably from the following species. *Cal.*, as Mr. Wilson observes, "with deep ovato-oblong, toothed, acute, spreading segments, reflexed in the margin and with intermediate teeth. *Anthers* yellow. *Pollen* with 3 pellucid dots, compressed. *Germen* granulated. *Stigmas* rough with prominent but minute papillæ."—Notwithstanding the similarity of appearance in the blue blossoms of this plant to those of the Lavender, it is still but

> "the sea-lavender 'which lacks perfume.'"
>
> Crabbe.

3. S. *spathuláta*, Desf. (*upright-spiked Thrift*); leaves spathulate with a short mucro glaucous 3-nerved at the base, scape branched from below the middle, panicle elongated, branches distichous, spikes erect, calyx with plane blunt segments without intermediate teeth. *Desf. Fl. Atl. v. i. p.* 275. (*not Willd.?*)

Sims in Bot. Mag. t. 1617.—*S. cordata, G. E. Smith, in Cat. of Pl. of Kent, p.* 18, *t.* 2. *f.* 2, (*vix Linn.*) *S. binervosa, G. E. Smith in E. Bot. Suppl. t.* 2663.—*S. reticulata, Hook. Scot. i. p.* 97, (*excl. syn.*) *S. Limonium, β. E. Fl. v. ii. p.* 116.—*Limonium minus, Ray, Syn. p.* 202.

Coast of Kent in several places, *Gerard;* and *Rev. G. E. Smith.* I gathered it on the Shakspeare Cliff, Dover, in 1806. Harwich, *Ray.* Mull of Galloway, Scotland, *Mr. Goldie.* Rocks near Holyhead, and St. Bees' Head, near Whitehaven, *Mr. W. Wilson.* Devon, *Mr. Banks.* Dublin, *Mr. Mackay.* N. of Ireland, *Mr. Drummond.* Somerset, *Mr. Christy. Fl.* Aug. 4.—Much credit is due to the Rev. G. E. Smith who published in 1829, and clearly distinguished this plant from *S. Limonium;* and no less to Mr. W. Wilson and Mr. Goldie, both of whom had previously sent it to me as distinct from *S. Limonium:* though they at first fell into the very natural error of considering it to be the *S. reticulata.* Mr. Wilson has so well recorded its discriminating characters in a letter to me in August 1828, that I should do him injustice were I not to introduce them here. "The *leaves* (which are coriaceous and short in proportion to the height of the scape), have the *midrib* somewhat pellucid when held between the eye and the light; and there are besides, two parallel *ribs* or *nerves* extending beyond the middle: *footstalks* bordered, so as to constitute of the whole a spathulate leaf. *Mucro* very small, always dorsal, not formed of a continuation of the (cartilaginous) margin, for that is continued round the apex of the leaf, and above the mucro which is not channelled. *Scape* round, with an even surface, a little zigzag or wavy above, taking a fresh direction at every branch of the panicle. *Anthers* white. *Pollen* with 4—5 pellucid dots, compressed. *Germen* smooth. *Stigmas* covered with a reticulation of vesicles, not prominent, much larger than the papillæ of *S. Limonium.*" The lower branches of the panicle are now and then abortive or destitute of flowers, in both species.

This appears to me to agree with Desfontaines' *S. spathulata,* figured in the Botanical Magazine, and mentioned as a native of Barbary. Nor can I satisfy myself that the *S. oleifolia,* Pourr. and *globulariæfolia,* Desf. and *Willdenoviana,* Poir. (*spathulata, Willd. in Hort. Berol. t.* 63.) are really distinct from the present species:—to these I might almost add *S. auriculifolia.* The differences seem chiefly to reside in the more or less acute or mucronated leaves.

4. S. *reticuláta,* Linn. (*matted Thrift*); leaves spathulate, scapes paniculated almost from the base with numerous slender zigzag distinctly bracteated branches, of which the upper ones only bear flowers, flowers crowded. *E. Bot. t.* 328. *E. Fl. v. ii. p.* 116. (*excl. syn. of Hook. Scot.*)

Muddy salt-marshes, but rare. Norfolk, principally at Cley, and Wisbeach.) *Fl.* July, Aug. 4.—Much smaller than either of the two last; with very short *leaves. Scapes* several from the same root, remarkable for their numerous, slender, entangled, barren branches, and small, crowded *flowers,* in secund, terminal *spikes.* The finest specimens I have seen of this species are sent to me by Professor Henslow from Cley, gathered July 1829. They are 6 inches long and with such numerous

barren branches as to satisfy me that the *S. caspia*, of Willdenow, is the same; as Marshal Bieberstein had rightly determined. Sprengel quotes, under *S. reticulata*, *S. virgata*, Willd. and *S. viminea*, Schrad. *Statice* is a genus that would amply repay the labour required in its illustration by the beauty and singularity of its species. Above 70 species (including "*Armeria*") are enumerated by Sprengel.

97. Línum. *Linn.* Flax.

* *Leaves alternate.*

1. L. *usitatíssimum*, Linn. (*common Flax*); leaves lanceolate, calycine leaves ovate acute 3-nerved, petals crenate, stem subsolitary. *E. Bot. t.* 1357. *E. Fl. v. ii. p.* 118.

Corn fields, not unfrequent. *Fl.* July. ⊙.—One or one foot and a half high, slender, branched above. *Leaves* distant. *Flowers* large, purplish-blue.—This, as may be inferred from its name, yields in the strong fibres of its bark the valuable *flax* of commerce; while from the seed a precious oil is expressed, known by the name of *Lint-seed oil.* These seeds, too, are highly mucilaginous, and much employed in poultices, fomentations, &c.

2. L. *perénne*, Linn. (*perennial blue Flax*); leaves linear acute, calycine leaves obovate obtuse obscurely 5-ribbed glabrous, stems numerous from the same root. *E. Bot. t.* 40. *E. Fl. v. ii. p.* 118.

Chalky hills: Cambridgeshire, Hinton, *Rev. Prof. Henslow*, Northamptonshire, Westmoreland, Norfolk and Suffolk, *Rev. G. R. Leathes.* Near Monkstown, Ireland, *Mr. James Drummond. Fl.* June, July. 4.

3. L. *angustifólium*, Huds. (*narrow-leaved pale Flax*); leaves linear-lanceolate acuminate 3-nerved, calycine leaves elliptical three-ribbed mucronate as well as the capsule. *E. Bot. t.* 381. *E. Fl. v. ii. p.* 119.

Sandy and chalky pastures, principally near the sea. Kent, Sussex, Norfolk, Suffolk; near Liverpool, *Mr. J. Shepherd.* Cornwall; and near Plymouth, *Mr. Banks.* About Dublin, *Mr. J. T. Mackay. Fl.* July. 4.—All the three species of this division have a great similarity in their habit. The best characters, as observed by Sir J. E. Smith, are taken from the calyx. In the present the *petals* are of a paler blue than in the preceding species, and smaller in proportion to the size of the calyx.

** *Leaves opposite.*

4. L. *cathárticum*, Linn. (*purging Flax*); leaves opposite oblong, stem dichotomous above, petals acute. *E. Bot. t.* 382. *E. Fl. v. ii. p.* 119.

Pastures, everywhere, abundant. *Fl.* June, July. ⊙.—*Stem* slender, upright, 2—6 inches high. *Flowers* gracefully drooping before expansion, white, small.

98. Sibbáldia. *Linn.* Sibbaldia.

1. S. *procúmbens*, Linn. (*procumbent Sibbaldia*); leaves ternate,

leaflets wedge-shaped tridentate. *E. Bot. t.* 175. *E. Fl. v. ii. p.* 120.

Near, and upon the summits of the Highland mountains of Scotland, abundant. *Fl.* July. ♃.—A small, glaucous, slightly hairy plant, woody at the base and roots. *Petals* small, yellow, sometimes wanting. *Stam.* 5—7. *Pistils* 5—8 or 10.—Nearly allied to *Potentilla*, as Mr. W. Wilson well observes.

PENTANDRIA.—HEXAGYNIA.

99. Drósera. *Linn.* Sun-dew.

1. D. *ro úndifolia*, Linn. (*round-leaved Sun-dew*); leaves radical orbicular spreading, petioles hairy, seeds chaffy. *E. Bot. t.* 867. *E. Fl. v. ii. p.* 122.

Bogs and moist heathy ground, frequent. *Fl.* July. ♃.—*Leaves*, in all our species, covered with red pedunculated viscid *glands*, which retain insects. *Scape* 2—5 inches high, glabrous. *Flowers* racemed, secund, small. *Styles* variable in number.

2. D. *longifólia*, Linn. (*spathulate-leaved Sun-dew*); leaves radical spathulate very obtuse erect on long glabrous petioles, seeds with a compact rough coat not chaffy. *E. Bot. t.* 868. *E. Fl. v. ii. p.* 123.

Bogs and moist heathy ground, not uncommon, but more frequent in the south than in the north. South of Ireland, *Mr. J. T. Mackay. Fl.* July. ♃.—Well distinguished from the following, by its rough, and not loose, coat to the *seeds*, a character long ago observed and figured by Schkuhr and confirmed by Mr. W. Wilson. *Styles* often 8; *stigmas* deeply cloven. Mr. W. Wilson detected a curious monstrosity in the flower of this, having "one germen enclosed within another, and a third within the second; the external one open at the top and fringed with styles and abortive anthers. Rudiments of seeds lined the inner surface as usual. The inner germen had styles and anthers intermixed, and was closed at the top, the innermost was more imperfectly formed, but with rudiments of styles. There were 8 petals and about 6 perfect stamens in the flower." The same acute Botanist, too, observed that "specimens[1] gathered in Cheshire abounded in colouring matter and stained the paper in which they were placed, after having been dried, of a deep, rusty red colour, which also penetrated several contiguous sheets:—and that D. *rotundifolia*, on the same sheet, was found to possess the same property, but in a much slighter degree."

3. D. *ánglica*, Huds. (*great Sun-dew*); leaves radical linear-spathulate erect on very long glabrous petioles, seeds with a loose chaffy coat. *E. Bot. t.* 369. *E. Fl. v. ii. p.* 123.

[1] With me, in the Herbarium, both *D. anglica* and *D. longifolia* retain the property of staining the paper of the sheets that lie next to them for a great number of years; so that the form of the leaves, scapes, and flowers are distinctly represented through to the backs of the sheets on which they are fastened, and upon the backs of several sheets which have, at different times, lain above them: and this though the specimens are perfectly dry.

On bogs in several parts of Scotland, as far north as Ardnamurchan, *W. C. Trevelyan, Esq.:* near Warrington, Lancashire, *Mr. W. Wilson:* Bedfordshire; Norfolk, and probably in other counties. *Fl.* July, Aug. 4.—This has much longer and narrower *leaves* than the last, and would better deserve the name of *longifolia.* But that character has never been considered (though I believe very constant) sufficient to separate this species from the last; and a general opinion has prevailed, with myself as well as others, that the present was but a variety of *longifolia.* Now, however, that Mr. W. Wilson has observed the true nature of its seed, an important and invariable character is established. Here the seed, as in *Pyrola* and *Orchis* and in *D. rotundifolia,* has a very loose, reticulated, even coat. In *D. longifolia* the coat firmly adheres to the rest of the seed, and is rough or papillose. "Embryo at the lower end of the seed, dicotyledonous."—*Wilson.*

PENTANDRIA—POLYGYNIA.

100. Myosúrus. *Linn.* Mouse-tail.

1. M. *mínimus,* Linn. (*common Mouse-tail.*) *E. Bot. t.* 435. *E. Fl. v. ii. p.* 124.

Corn-fields and waste places in England, in a gravelly or chalky soil. Scotland, *Sibbald;* but I have never seen Scottish specimens, nor does it appear to be a native of Ireland. *Fl.* May. ⊙.—A small plant, from 2—6 inches in height. *Leaves* erect, narrow, linear-spathulate, fleshy. *Scapes* slender, bearing a single flower, small, greenish. *Receptacle* with the numerous *germens,* at first short, oblong; then lengthening out to from 1—3 inches, and resembling a mouse's tail.

CLASS VI. HEXANDRIA. 6 *Stamens* (*equal in height*).

ORD. I. MONOGYNIA. 1 *Style.*

* *Flowers complete, having a double perianth.* (*Cal. and Cor.*)

1. Bérberis. *Cal.* of 6 concave, coloured, inferior, deciduous leaves. *Pet.* 6, each with two glands at the base. *Berry* 2—3-seeded.—*Nat. Ord.* Berberideæ, *Vent.*—Name; *Berbêrys,* according to *du Théis,* is the Arabic name of this fruit.

2. Frankénia. *Cal.* of 1 piece, inferior. *Cor.* of 6 petals. *Stigmas* 3. *Caps. of* 1 cell, 3—4-valved; *valves* bearing many *seeds* at their margins.—*Nat. Ord.* Frankeniaceæ, *St. Hil.*—Named from *John Franken,* a Swedish botanist and Professor of Medicine at Upsal, who died in 1661.

3. Péplis. *Cal.* campanulate, with 6 large and 6 alternating smaller teeth. *Pet.* 6, inserted upon the calyx, often wanting. *Caps.* superior, 2-celled, many-seeded.—*Nat. Ord.* Lythrariæ, *Juss.*—Named from πεπλιον, anciently applied to the genus *Portulaca,* now to one somewhat similar in habit.

(*See* Lythrum *in* Cl. XII.)

** *Perianth single, superior.*

4. Leucójum. *Perianth* campanulate, superior, petaloid, of 6 equal pieces, a little thickened at the point. *Flowers* from a *spatha.* —*Nat. Ord.* Amaryllideæ, *Br.*—Named from λευκος, *white*, and ιον, *a violet.* But the name λευκοιον was by the Greeks applied to the *Wall-flower.*

5. Galánthus. *Perianth* petaloid, of 6 pieces, 3 outer ones spreading, 3 inner smaller, erect, emarginate. *Flowers* from a *spatha.*—*Nat. Ord.* Amaryllideæ, *Br.*—Named from γαλα, *milk*, and ανθος, a *flower.* The French name, *perce-neige*, is very expressive.

6. Narcíssus. *Perianth* superior, coloured, funnel-shaped, with a spreading 6-partite *limb*, and a campanulate or cup-shaped *crown* or *nectary*, within which are the *stamens.* *Flowers* from a *spatha.* —*Nat. Ord.* Amaryllideæ, *Br.*—Named from ναρκη, *stupor*, in allusion to the powerful and injurious smell of the flowers. More immediately derivable from the youth *Narcissus*, who was fabled to be changed into this flower, an inhabitant sometimes of watery places, by the banks of streams.

*** *Perianth single, inferior, petaloid, rarely herbaceous.*

7. Convallária. *Perianth* inferior, petaloid, deciduous, 6-cleft, globose or cylindrical. *Berry* 3-celled. *Seeds* 1—2 in each cell. —*Nat. Ord.* Smilaceæ, *Br.*—Name, *convallis*, a *valley;* from the locality of the species.

8. Állium. *Perianth* inferior, petaloid, of 6 ovate spreading pieces. *Caps.* triquetrous. (*Flowers umbellate, arising from a* 2-*leaved spatha*).—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Named from the Celtic *all*, which signifies *acrid, burning.* (*Théis.*)

9. Gágea. *Perianth* coloured, of 6 persistent pieces, connivent below, spreading above. *Filaments* not dilated at the base. *Capsule* triangular. (*Flowers corymbose or umbellate, yellow, with foliaceous bracteas.*)—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Named in honour of the late *Sir Thos. Gage, Baronet*, an excellent British botanist.

10. Ornithógalum. *Perianth* inferior, petaloid, of 6 persistent pieces. *Stam.* alternately larger or dilated at the base. *Capsules* with 3 angles and 3 furrows. (*Flowers racemose. Bracteas membranaceous.*)—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Named from ορνις, *a bird*, and γαλα, *milk.* Linnæus says that the roots of O. *umbellatum* are the "*Dove's Dung,*" which was sold so dear at the siege of Samaria, as mentioned in 2d book of Kings. They are still much used as food in the Levant. (*See E. Bot. t.* 130.)

11. Scílla. *Perianth* inferior, of 6 leaves, petaloid, spreading and deciduous. *Filaments* filiform, glabrous, inserted at the base of the perianth. (*Flowers racemed.*)—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Named from σκυλλω, *to injure:* in Arabic also, *âsgyl.* The root of *S. maritima* is said to be highly poisonous and a valuable medicine.

12. Hyacínthus. *Perianth* inferior, of 1 piece, petaloid, 6-cleft or 6-partite, tubular, reflexed at the extremity. *Stamens* inserted upon the segments, included.—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Named from the youth *Hyacinthus*, who, being killed by Apollo, was by him changed into a plant, whose foliage bore in dark streaks the initials of his name. Our only British species, having no mark or figure, was hence called *non-scriptus.*

13. Múscari. *Perianth* inferior, of 1 piece, petaloid, ovate, inflated, 6-toothed. *Capsule* trigonous, with prominent angles; *cells* 2-seeded. *Duby.*—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Named from μοσχος, *musk*, a smell yielded by one species.

14. Anthéricum. *Perianth* inferior, petaloid, of 6 equal, spreading elliptical pieces. *Stam.* filiform, mostly bearded. *Capsule* roundish, 3-celled; *seeds* angular.—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Named from ανθερικος, applied by the Greeks to the stem of the *Asphodel.*

15. Aspáragus. *Perianth* inferior, 6-partite, deciduous. *Stigmas* 3. *Berry* globose, 3-celled. *Seeds* few. *Embryo* excentric.—*Nat. Ord.* Liliaceæ; Trib. II. Asphodeleæ, *De Cand.*—Name, ασπαραγος in Greek, from σπαραττω, *to tear:* and that, according to Théis, from *spen*, a *spine*, in Celtic, which is the root of many words in Latin, French, German, and English. Many species of this genus are armed with spines.

16. Narthécium. *Perianth* inferior, petaloid, of 6 linear-lanceolate, spreading pieces. *Stam.* woolly. *Germen* pyramidal. *Caps.* 3-celled, 3-valved. *Seeds* with an appendage at each extremity.—*Nat. Ord.* Junceæ, *De Cand.*—Named from ναρθηξ, a *rod*, probably from the elongated straight raceme of flowers. It is remarkable that this word is an anagram of *Anthericum*, a genus with which Linnæus united it.

17. Fritillária. *Perianth* campanulate, inferior, of 6 pieces, with a nectariferous cavity at the base of each. *Stigmas* 3. *Capsule* 3-celled, 3-valved, oblong. *Seeds* flat.—*Nat. Ord.* Liliaceæ; Trib. I. Tulipaceæ, *De Cand.*—Name derived from *fritillus*, a *Dice-board.*

18. Tulípa. *Perianth* campanulate, inferior, of 6 pieces.

Nectaries 0. *Stigma* sessile, 3-lobed. *Capsule* trigonous. *Seeds* flat.—*Nat. Ord.* Liliaceæ; Trib. I. Tulipaceæ, *De Cand.*—Named from *toliban*, the Persian name for a *Turban*, whose gay colours are similar to those of the Tulip. (*Théis.*)

19. Acorus. *Flowers* arranged upon a *spadix*. *Spatha* 0. *Perianth* of 6 pieces or scales, inferior. *Stigma* sessile. *Capsule* indehiscent, many-seeded.—*Nat. Ord.* Aroideæ, *Juss.*—Named from α, *without*, and κορίον, or κόρη, *the pupil of the eye*, the diseases of which it was supposed to remove.

**** *Perianth single, inferior, glumaceous.*

20. Júncus. *Perianth* inferior, of 6 leaves, glumaceous. *Caps.* 3-celled, 3-valved; *valves* with the seed-bearing *dissepiments* in their middle. (*Leaves rigid, mostly rounded, rarely plane, glabrous.*)—*Nat. Ord.* Junceæ, *De Cand.*—Named from *jungo, to join;* the leaves and stems of this genus having been employed as cordage.

21. Lúzula. *Perianth* inferior, of 6 leaves, glumaceous. *Caps.* 1-celled, 3-valved: *valves* without dissepiments. *Seeds* 3, at the bottom of the cell. (*Leaves soft, plane, generally hairy*).—*Nat. Ord.* Junceæ, *De Cand.*—Name:—the *Gramen Luzulæ* of Bauhin. *Luzula*, Smith tells us, is altered from *lucciola*, or *luzziola*, a *glowworm:* because the heads of flowers, wet with dew, and sparkling by moonlight, gave the elegant Italians an idea of those brilliant insects. Hence the learned author of English Flora contends for *Luciola* as the proper orthography.

(*See* Peplis *in* Ord. I. Polygonum *in* Cl. VIII.)

ORD. II. DIGYNIA. 2 *Styles.*

22. Oxýria. *Cal.* of 2 leaves. *Cor.* of 2 petals, a little larger than the *cal.* *Nut* triquetrous, with a broad membranous margin. *Embryo* erect, inverted.—*Nat. Ord.* Polygoneæ, *Juss.*—Named from ὀξυς, *sharp* or *acid;* from the acid flavour of this, as of many other plants belonging to the same natural family.

ORD. III. TRIGYNIA. 3 *Styles.*

23. Rúmex. *Cal.* of 3 leaves combined at the base. *Cor.* of 3 *petals.* *Stigmas* multifid. *Nut* triquetrous, covered by the enlarged petals, which often bear tubercles.—*Nat. Ord.* Polygoneæ, *Juss.*—Name of unknown origin.

24. Tofiéldia. *Perianth* single, 6-partite, having a small 3-partite *involucre.* *Stamens* glabrous. *Caps.* 3—6-celled; *cells* united at the base, many-seeded.—*Nat. Ord.* Melanthaceæ, *Br.*—Named in honour of *Mr. Tofield*, an English Botanist.

25. Scheuchzéria. *Perianth* single, petaloid, of 6 leaves. *Anthers* elongated. *Capsules* 3, inflated, 2-valved, 1-seeded.—*Nat. Ord.* Juncagineæ, *Rich.*—Named in honour of the 3 *Scheuchzers*, Swiss Botanists.

26. Tríglochin. *Perianth* of 6, concave, deciduous leaves, 3 outer and 3 inner. *Anthers* sessile, lodged in the leaves of the *perianth*, with their backs towards the *pistil*. *Capsules* 3—6, 1-seeded, united by a longitudinal *receptacle*, from which they usually separate at the base.—*Nat. Ord.* Juncagineæ, *Rich.*—Named from τρεις, *three*, and γλωχις, a *point*; from the three points of the capsules.

27. Cólchicum. *Perianth* single, tubular, very long, rising from a spatha; *limb* campanulate, 6-partite, petaloid. *Caps.* 3-celled; *cells* united at the base.—*Nat. Ord.* Melanthaceæ, *Br.*—Named from *Colchis*, where it was said to grow abundantly.

(*See* Elatine *in* Cl. VIII.)

ORD. IV. HEXAGYNIA. 6 *Styles.*

28. Actinocárpus. *Cal.* of 3 leaves. *Petals* 3. *Germens* 6—8. *Capsules* combined at the base, spreading in a radiated manner, 2-seeded. *Embryo* much curved.—*Nat. Ord.* Alismaceæ, *De Cand.*—Named from ακτιν, *a ray*, and καρπος, *a fruit*; in consequence of its curiously radiated fruit resembling a *star-fish*.

ORD. V. POLYGYNIA. *Many Styles.*

29. Alísma. *Cal.* of 3 leaves. *Petals* 3. *Capsules* many, clustered, distinct, indehiscent, one-seeded. *Embryo* much curved.—*Nat. Ord.* Alismaceæ, *De Cand.*—Named from *alis*, *water*, in Celtic. The genus is altogether aquatic.

HEXANDRIA—MONOGYNIA.

1. Bérberis. *Linn.* Barberry.

1. B. *vulgáris*, Linn. (*common Barberry*); racemes pendulous, spines 3-forked, leaves obovate ciliato-serrate. *E. Bot. t.* 49. *E. Fl. v. ii. p.* 184.

Copses, woods and hedges, in England and Scotland. Near Fermoy, Ireland, *Mr. J. Drummond. Fl.* June. ♄.—*Shrub* with upright, twiggy stems. *Flowers* yellow, smelling disagreeably. *Stamens* highly curious in their formation and in their elastic property when touched. *Berries* oblong, a little curved, red, tipped with the black *style*: they are agreeably acid and much used for preserves.

2. Frankénia. *Linn.* Sea-Heath.

1. F. *lævis*, Linn. (*smooth Sea-Heath*); leaves linear revolute

at the margin glabrous ciliated at the base. *E. Bot. t.* 205. *E. Fl. v. ii. p.* 186.

Muddy salt-marshes, about Yarmouth and the other eastern coasts of England. Isle of Sheppey, Kent, *Rev. Prof. Henslow. Fl.* July. ♃. —A humble procumbent *plant*, with wiry *stems* and numerous fascicled *leaves*. *Flowers* pale rose-coloured, terminal or from the axils of the branches.

2. F. *pulverulénta*, Linn. (*powdery Sea-Heath*); leaves obovate retuse glabrous above, downy and pulverulent beneath, petiole ciliated. *E. Bot. t.* 2222. *E. Fl. v. ii. p.* 186.

Found in the time of Dillenius and Hudson on the sea-coast of Sussex. *Fl.* July. ☉.—*Stems* prostrate, repeatedly dichotomous. *Flowers* smaller than in the preceding.

3. Péplis. *Linn.* Purslane.

1. P. *Pórtula*, Linn. (*Water Purslane*); flowers axillary solitary, leaves obovate. *E. Bot. t.* 1211. *E. Fl. v. ii. p.* 187.

Watery places, not unfrequent. *Fl.* July, Aug. ☉.—*Plant* prostrate, 5—6 inches long, creeping, little branched. *Leaves* opposite, glabrous, tapering at the base.

4. Leucójum. *Linn.* Snowflake.

1. L. *æstívum*, Linn. (*Summer Snowflake*); spatha many-flowered, style club-shaped. *E. Bot. t.* 621. *E. Fl. v. ii. p.* 130.

Moist meadows; Thames' side, below Greenwich, especially the Kentish shore, *Mr. E. Forster;* in Suffolk, Berkshire, Westmoreland, Northumberland, &c. It is difficult to say where this plant is really wild. *Fl.* May. ♃.—*Root* bulbous. *Leaves* long linear, keeled; *scape* 2-edged. *Flowers* white, drooping.

5. Galánthus. *Linn.* Snowdrop.

1. G. *nivális*, Linn. (*Snowdrop*). *E. Bot. t.* 19. *E. Fl. v. ii. p.* 129.

Woods, orchards, meadows, pastures, &c. in very many places in England, Scotland and Ireland, but scarcely indigenous. *Fl.* Feb. ♃. —*Bulb* ovate. *Leaves* 2, broadly linear, glaucous-green. *Flowers* solitary, drooping, elegant, rendering this plant a general favourite.

> " Like pendent flakes of vegetating snow
> The early Herald of the infant year,
> Ere yet the adventurous Crocus dares to blow
> Beneath the orchard boughs thy buds appear."

6. Narcíssus. *Linn.* Daffodil.

1. N. *Pseudo-narcíssus*, Linn. (*common Daffodil*); spatha single-flowered, nectary campanulate erect crisped at the margin obsoletely 6-cleft, as long as the ovate segments of the perianth. *E. Bot. t.* 17. *E. Fl. v. ii. p.* 132.

Moist woods and thickets. Rare in Scotland: about Culross and Dunoon; but scarcely indigenous. Near Templeogue, Ireland; *Mr. J. T. Mackay. Fl.* March, Apr. ♃.—*Flowers* large, yellow.

2. N. *poéticus*, Linn. (*Narcissus of the Poets*); spatha mostly single-flowered, nectary very short concave membranous and crenate at the margin, leaves with an obtuse keel. *E. Bot. t.* 275. *E. Fl. v. ii. p.* 131.

Heathy open fields on a sandy soil, said to be wild in Norfolk and Kent. *Fl.* May. 4.—Larger than the last, with a *flower* of a very different structure, and with a deeply coloured border to the *nectary*. Its beauty and delicious odour have recommended it to general culture. Smith says this is the true *Narcissus* of the Greek writers, as clearly described by Dioscorides.

3. N. *biflórus*, Curt. (*pale Narcissus*); spatha 2-flowered, nectary very short concave membranous and crenate at the margin, leaves acutely keeled. *E. Bot. t.* 276. *E. Fl. v. ii. p.* 132.

Sandy fields, in Kent and Herts; near Totness, Devon, *Rev. J. S. Tozer*; and about Dublin, frequent, *Mr. J. T. Mackay*. *Fl.* April, May. 4.—Similar to the last in the general form of the *flowers*, but these are smaller, not of so pure a white, without the coloured border to the nectary, and with a less agreeable scent.

7. Convallária. *Linn.* Lily of the Valley, or Solomon's Seal.

1. C. *majális*, Linn. (*Lily of the Valley*); scape semi-cylindrical, leaves 2 ovato-lanceolate radical, flowers racemed globoso-campanulate drooping. *E. Bot. t.* 1035. *E. Fl. v. ii. p.* 154.

Woods and coppices, particularly in a light soil: frequent in England and in several places in Scotland. *Fl.* May. 4.—*Flowers* very pure white, fragrant, segments recurved. *Berries* red, globose.

2. C. *verticilláta*, Linn. (*narrow-leaved Solomon's seal*); leaves lanceolate whorled, flowers cylindrical. *E. Bot. t.* 128. *E. Fl. v. ii. p.* 154.

Woods and glens, very rare, and only found in Scotland. Den of Rechip, 4 miles N.E. of Dunkeld, *Mr. A. Bruce*. It has been pointed out to *Mr. James Macnab* as indigenous in the woods at Blair in Athol. *Fl.* June. 4.—2 f. high. *Leaves* numerous, bright green, 3—4 in a whorl. *Flowers* solitary or with branched footstalks, drooping.

3. C. *multiflóra*, Linn. (*common Solomon's seal*); leaves ovato-elliptical alternate half-embracing the rounded stem, peduncles axillary one-or many flowered, flowers cylindrical, filaments hairy, style flexuose. *E. Bot. t.* 279. *E. Fl. v. ii. p.* 156.

Woods and coppices, in various parts of England and the south of Scotland: also at Kingcusie, 7 miles from Aberdeen, *Mrs. Boswell*. *Fl.* May, June. 4.—2 f. high, bare of leaves below. *Leaves* large, marked with longitudinal nerves, secund; the *flowers* drooping in an opposite direction, white, greenish at the tips. *Berries* bluish-black.

4. C. *Polygonátum*, Linn. (*angular Solomon's seal*); leaves ovato-elliptical alternate half-embracing the angular stem, peduncles mostly single-flowered, flowers cylindrical, filaments glabrous, style strait. *E. Bot. t.* 280. *E. Fl. v. ii. p.* 155.

Woods in England, very rare ; in Yorkshire, Somersetshire, and Kent. *Fl.* May, June. 4.—Smaller than the last. *Flowers* greener, fragrant.

8. Allium. *Linn.* Onion.

* *Stem-leaves plane.*

1. A. *Ampeloprásum*, Linn. (*great round-headed Garlic*) ; umbels globose without bulbs, leaves linear keeled acuminate, 3 alternate stamens deeply 3-cleft. *E. Bot. t.* 1657. *E. Fl. v. ii. p.* 133.

Rare; on Holmes Island in the Severn, *Ray*. *Fl.* Aug. 4.—2—3 f. high, with broad acuminated *leaves*, and large heads of purplish-white *flowers:* allied to *A. Porrum*, the *Leek*, in habit, but differing in its perennial and clustered young bulbs. The specific name, αμπελος, a *vine*, and πρασον, a *leek*, means *onion of the vineyard*. *Porrum*, says Théis, is from *pori*, to *eat*, in Celtic; whence comes our word *Porridge*.

2. A. *arenárium*, Linn. (*Sand-Garlic*); umbels bearing bulbs compact spherical, leaves linear with cylindrical sheaths, 3 alternate stamens 3-cleft, leaves of the spatha short obtuse. *E. Bot. t.* 1358. *E. Fl. v. ii. p.* 134.

Mountainous woods and fields, in sandy soil, principally in the north of England. Perthshire and Angus-shire. Portmarnock sands, Ireland, *Mr. J. T. Mackay*. *Fl.* July. 4.—*Stem* 2—3 f. high, leafy below, rounded, glabrous. Heads dense with purple *flowers*, rather small. *Spatha* often of 3, very short, ovate, obtuse segments.

3. A. *carinátum*, Linn. (*Mountain Garlic*) ; umbels bearing bulbs lax, leaves linear keeled, stamens all simple, leaves of the spatha very long unequal. *E. Bot. t.* 1658. *E. Fl. v. ii. p.* 135.

Sandy ground on the south-east coast of England, and mountainous situations in the north. Banks of the Isla, Scotland. Near Dublin, *Dr. Scott*. *Fl.* July. 4.—3 f. high. *Stems* rounded, glabrous, leafy below. *Flowers* upon long wavy peduncles, pale brownish-white. Smith considers it to differ from the following only in its more compressed leaves.

** *Stem-leaves rounded.*

4. A. *oleráceum*, Linn. (*streaked Field Garlic*) ; umbel bearing bulbs lax, leaves grooved above, stamens all simple, leaves of the spatha with long points. *E. Bot. t.* 488. *E. Fl. v. ii. p.* 136.

Borders of fields in Essex, about Bristol, in Norfolk, Westmoreland and Yorkshire St. David's, Scotland. *Fl.* July. 4.

5. A. *vineále*, Linn. (*Crow Garlic*) ; umbel bearing numerous bulbs, leaves fistulose, stamens deeply 3-cleft. *E. Bot. t.* 1974. *E. Fl. v. ii. p.* 137.

Corn-fields, waste places, &c. not unfrequent throughout England and the south of Scotland: and near Dublin, Ireland. *Fl.* June. 4.—*Stem* 1½ to 2 f. high. *Bulbs* numerous. *Spatha* of 2 rather small, deciduous *leaves*. *Flowers* on longish peduncles, which are thickened upwards, few, erect, reddish, green on the keels, shorter than the *stamens*, whose *filaments* as well as the *anthers* are protruded.

**** Leaves all radical.*

6. A. *ursínum*, Linn. (*broad-leaved Garlic or Ramsons*); umbel nearly plane, leaves ovato-lanceolate on footstalks, scape triangular. *E. Bot. t.* 122. *E. Fl. v. ii. p.* 137.

Moist woods and hedge-banks, frequent. *Fl.* June. 4.—*Flowers* white. *Umbels* without bulbs, level-topped. *Spatha* of 2, ovato-lanceolate *leaves*.

7. A. *Schœnoprásum*, Linn. (*Chive Garlic*); leaves rounded subulato-filiform fistulose, scape rounded as long as the leaves. *E. Bot. t.* 2441. *E. Fl. v. ii. p.* 138.

Meadows and pastures, rare. Westmoreland, Berwickshire and Argyleshire, *Lightfoot*. Above Kynance Cove, Cornwall. *Rev. J. S. Tozer. Fl.* June. 4.—1 f. high. Heads of *flowers* compact, purplish. *Stam.* simple. *Spatha* of 2 short ovate leaves. *Umbel* without bulbs.—Specific name from σχοινος, a *rush*, and πρασον, a *leek*: i. e. *rush-leaved onion*.

9. GÁGEA. *Salisb.* Gagea.

1. G. *lútea*, Ker, (*yellow Gagea*); radical leaves 1—2 linear-lanceolate longer than the angular scape, umbel simple, bracteas linear-lanceolate longer than the umbel, leaves of the perianth obtuse. *Lindl. Syn. t.* 268.—*Ornithogalum luteum*, *Linn.*—*E. Bot. t.* 21. *E. Fl. v. ii. p.* 142.

Woods and pastures, in several parts of England and Lowlands of Scotland. *Fl.* March. Apr. 4.

10. ORNITHÓGALUM. *Linn.* Star of Bethlehem.

1. O. *pyrenáicum*, Linn. (*spiked Star of Bethlehem*); raceme elongated, filaments all dilated, peduncles equal spreading erect in fruit. *E. Bot. t.* 499. *E. Fl. v. ii. p.* 143.

Rare. Pastures in Somersetshire, Sussex and Bedfordshire. *Fl.* June, July. 4.—*Bulb* ovate. *Leaves* long, linear, acuminate, channelled. *Scape* 1½ to 2 f. long. *Raceme* elongated. *Flowers* much smaller than in the two following species, greenish-white.

2. O. *umbellátum*, Linn. (*common Star of Bethlehem*); racemes corymbose, peduncles longer than the bracteas, filaments subulate. *E. Bot. t.* 130. *E. Fl. v. ii. p.* 143.

Meadows and pastures in various parts of England: scarcely wild. Near Glasgow. *Fl.* Apr. May. 4.—8—10 inches high. *Leaves* linear, acuminate, grooved. *Flowers* large, few, 6—9, lower pedicels very long, so that their flowers reach to the same height with the upper ones, thus forming a *corymb*, each having a membranous lanceolate *bractea*. *Segments* of the *perianth* green, with a white margin and white within.

3. O. *nútans*, Linn. (*drooping Star of Bethlehem*); flowers pendulous unilateral, filaments broad cloven alternately longer and with deeper lobes. *E. Bot. t.* 1997. *E. Fl. v. ii. p.* 144.

Fields and orchards, apparently naturalized in Bedfordshire, Suffolk, Derby and Nottingham. *Fl.* Apr. May. 4.—*Flowers* in a true, but

lax, *raceme*, larger than the last, and having the *filaments* of their *stamens* of a very peculiar structure.

11. Scílla. *Linn.* Squill.

1. S. *vérna*, Huds. (*vernal Squill*); bulb coated, raceme in an hemispherical corymb few-flowered, bracteas lanceolate obtuse, leaves linear channelled. *E. Bot. t.* 23. *E. Fl. v. ii. p.* 145.

Common on the coasts of the west and northern parts of Great Britain, frequent in Orkney and Shetland. In Ireland. *Fl.* April. 4.—*Plant* 4—5 inches high. *Leaves* few, nearly as long as the scape. *Flowers* fragrant, deep blue. *Filaments* dilated downwards; *bracteas* membranaceous.—Mr. W. H. F. Talbot finds this species in the Pyrenées along with *S. Lilio-Hyacinthus*, which latter he distinguishes by its scaly root, racemed flowers, bracteas much longer than the pedicels and broader leaves.

2. S. *bifólia*, Linn. (*two-leaved Squill*); bulb coated, raceme lax subcorymbose, bracteas obsolete, leaves lanceolate mostly 2. *E. Bot. t.* 24. *E. Fl. v. ii. p.* 146.

A very dubious native. It exists in *Buddle's Herbarium*, and was received from the West of England by *Mr. Sims* of Norwich. *Fl.* March, April. 4.—*Flowers* pale blue.

3. S. *autumnális*, Linn. (*autumnal Squill*); bulb coated, raceme scarcely corymbose, bracteas none, pedicels and stamens about as long as the perianth, leaves linear several. *E. Bot. t.* 78. *E. Fl. v. ii. p.* 146.

Dry pastures and rocks in Cornwall, and near Bristol. Moulsey Hurst (Ray's habitat), *Mr. J. S. Mill.* Blackheath and Richmond, abundant; *Rev. G. E. Smith.* Flagpost-hill, Torquay, *Rev. J. S. Tozer.* *Fl.* Sept. 4.—*Flowers* pinkish-purple.

12. Hyacínthus. *Linn.* Hyacinth.

1. H. *non-scríptus*, Linn. (*wild Hyacinth or Hare-bell*); flowers in a raceme drooping, perianth 6-partite the extremities reflexed, bracteas in pairs. *Hook. Scot. i. p.* 102.—*Scilla nutans*, *E. Bot. t.* 377. *E. Fl. v. ii. p.* 147.

Woods, copses, and hedge-rows; varying with white and more rarely rose-coloured *flowers*. *Fl.* May. 4.—*Leaves* long, linear, channelled, acuminate. *Scape* 1 f. high, with 2 *bracteas* at the base of each short *pedicel*.—The habit of this plant is surely more that of *H. orientalis* than of any true *Scilla*.

13. Múscari. *Tourn.* Grape-Hyacinth.

1. M. *racemósum*, Mill. (*Starch Grape-Hyacinth*); flowers crowded ovate upper ones sessile, leaves linear flaccid keeled longer than the scape.—*Hyacinthus racemosus, Linn.*—*E. Bot. t.* 1931. *E. Fl. v. ii. p.* 149.

Grassy fields, and among ruins, scarcely indigenous. *Fl.* May. 4.—*Flowers* deep blue, smelling like wet starch.

14. Anthéricum. *Linn.* Spider-wort.

1. A. *serótinum*, Linn. (*Mountain Spider-wort*); leaves semicylindrical, cauline ones dilated at their base, flowers mostly solitary. *E. Bot. t.* 793. *E. Fl. v. ii. p.* 150.

Rare, on the Welsh mountains. On Snowdon, Crib y Ddescil, near Llanberis; and Cwm Idwel, Caernarvonshire, (*E. Fl.*) "On Snowdon, as well as on rocks by Twll dû, and near the summit of Glyder Fawr; all neighbouring, but distinct, situations." *Mr. W. Wilson. Fl.* June. 4.—4—6 inches high. "*Flower-stalk* invested with its own sheath and separated by an elongation of the *root* from the *leaves*, of which the most distant one encloses within its fleshy base the rudiment of the plant of the following season. The plant is increased by offsets or creeping shoots with a bulb at the extremity, the point of the bulb directed towards the parent root. *Perianth* permanent, withering: its segments nectariferous. *Stamens* not attached to the perianth, beardless. The lateral ribs at the back of the leaf are one on each side of the keel, not 'of the leaf.' Two-flowered specimens are very unfrequent."—*W. Wilson.*

15. Aspáragus. *Linn.* Asparagus.

1. A. *officinális*, Linn. (*common Asparagus*); unarmed, stem herbaceous mostly erect rounded very much branched, leaves setaceous fasciculate flexible, peduncles jointed in the middle. *E. Bot. t.* 339. *E. Fl. v. ii. p.* 152.

In several parts of the South, and South-west coasts of England. On an island, thence called "*Asparagus Island*," Kynance Cove, Cornwall; *Rev. J. S. Tozer.* Links near Gosford, Scotland. *Fl.* Aug. 4.—*Root* creeping, throwing up numerous scaly erect *stems*, which, when cultivated, form the *Asparagus* of our tables: rarely, in a wild state, exceeding a foot in height. *Flowers* drooping, greenish-white. *Berries* bright red.

16. Narthécium. *Huds.* Bog-Asphodel.

1. N. *ossífragum*, Huds. (*Lancashire Bog-Asphodel*); leaves linear uniform, pedicels with bracteas above the middle, stamens much shorter than the perianth. *E. Bot. t.* 535. *E. Fl. v. ii. p.* 151.

Wet places in moors, and mountains, frequent. *Fl.* July, Aug. 4. —6—8 inches high, decumbent at the base. *Roots* creeping. *Leaves* all radical, uniform, equitant, striated, about ½ as long as the *scape*, which has many scales or bracteas. *Stamens* considerably shorter than the *perianth*. *Seeds* with a very long *arillus* forming an appendage to each extremity, attached to a longitudinal receptacle on each valve: the *receptacles* form the dissepiments.

17. Fritillária. *Linn.* Fritillary.

1. F. *Meleágris*, Linn. (*common Fritillary*); stem single-flowered, leaves alternate linear-lanceolate, points of the perianth inflexed, nectary linear. *E. Bot. t.* 622. *E. Fl. v. ii. p.* 139.

Meadows and pastures, principally in the East and South of England. *Fl.* April. 4.—Varies with white *flowers*. Specific name

derived from the *Numidia Meleagris*, or *Pintado*, whose plumage is chequered in a somewhat similar manner.

18. Tulípa. *Linn.* Tulip.

1. T. *sylvéstris*, Linn. (*wild Tulip*); stem 1-flowered somewhat drooping, leaves of the perianth ovato-acuminate bearded at the extremity, stamens hairy at the base, stigma obtuse. *E. Bot. t.* 63. *E. Fl. v. ii. p.* 140.

Chalk-pits in Norfolk, Suffolk, Hertfordshire and Middlesex. In Scotland, near Hamilton and Brechin, and in an old quarry at Bennie Craig, Firth of Forth. *Mr. J. T. Mackay.* *Fl.* April. ♃.—*Flowers* yellow, fragrant. *Anthers* and *pollen* yellow. *Leaves* linear-lanceolate. The *wild Tulip* increases by throwing out a long stout fibre from its *root*, at the extremity of which a *bulb* appears. Thus is a new individual planted at a considerable distance from the parent.

19. Ácorus. *Linn.* Sweet Flag.

1. A. *Cálamus*, Linn. (*common Sweet Flag*); scape ancipitate rising much above the spadix. *E. Bot. t.* 356. *E. Fl. v. ii. p.* 157.

Watery places on the banks of rivers, in the middle and south-eastern counties of England; abundant in Norfolk and Suffolk. Rare in Scotland. Ayrshire, *Mr. J. Smith.* Loch Winnoch, Renfrewshire, *Mr. Paterson.* Castle Semple Loch, *Dr. Logan.* *Fl.* June. ♃.—*Root* aromatic. *Scape* similar to the *leaves*, ensiformi-ancipitate. The agreeable scent of this plant has recommended it for garlands, and for strewing on the floor of the cathedral at Norwich on festival-days.

20. Júncus. *Linn.* Rush.

* *Leaves none. Barren scapes resembling leaves. Panicle lateral. Flowers scattered.*

1. J. *glaúcus*, Sibth. (*hard Rush*); scape deeply striated rigid, panicle much branched, leaves of the perianth lanceolate subulate nearly equal, longer than the elliptical capsule. *E. Bot. t.* 665. *E. Fl. v. ii. p.* 160.

Wet pastures and by road-sides. *Fl.* July. ♃.—*Root* creeping. *Scapes* 1—2 f. high, glaucous, rigid, at the base covered with deep purple-brown, membranaceous, shining *sheaths*. *Panicle* lax, erect. *Flowers* slender, pale brown, with a broad green line down the middle of each leaflet of the perianth. *Bracteas* also small and acuminate. *Stam.* 6, in my specimens.

2. J. *effúsus*, Linn. (*soft Rush*); scape very faintly striated soft, panicle loose very much branched, spreading leaflets of the perianth lanceolate nearly acuminate rather longer than the obovate obtuse capsule. *E. Bot. t.* 836. *E. Fl. v. ii. p.* 162.

Marshy ground, common. *Fl.* July. ♃.—Distinguishable from the last, by its soft, pliable, almost smooth (scarcely striated) *scapes*, and spreading denser and shorter *panicles*, in which particulars it approaches the following species. *Stam.* 3 or 6.—Excellent, as is the following, for

plaiting into mats, chair-bottoms, &c. Wicks of candles are made of the pith.

3. J. *conglomerátus*, Linn. (*common Rush*); scapes very faintly striated (soft), panicle much branched very dense globose, leaflets of the perianth lanceolate acute nearly equal about as long as the broadly ovate very obtuse capsule, stamens 3. *E. Bot. t.* 1835. *E. Fl. v. ii. p.* 160.

Marshy ground, frequent. *Fl.* July. 4.—*Panicle* very dense. *Scape* resembling the last, and employed for the same purposes.

4. J. *Bálticus*, Willd. (*Baltic Rush*); scapes very obscurely striated, panicle erect branched, leaflets of the perianth nearly equal very acute as long as the elliptical capsule, stamens 6. *Hook. in E. Bot. Suppl. t.* 2621.—*J. arcticus, Hook. in Fl. Lond. t.* 151. *E. Fl. v. ii. p.* 163, (*excl. syn. Willd. and Wahl.*)

Sandy sea-shores in Scotland; near Dundee, *Mr. T. Drummond.* Farr and Cape Wrath, Sutherland; *Dr. Graham.* Aberdeenshire, *Dr. A. Murray.* Stotfield, 6 m. from Elgin, and between Findhorn and Spey; on the banks of the Losie, 7 m. from the sea; and at St. Andrews, Llanbride, where the sea formerly reached, *Rev. G. Gordon. Fl.* July. 4.—This comes so near the true *J. arcticus*, that I had myself considered it as the same, or only a large var. of it. It is, however, assuredly, the *J. balticus* of Willdenow, and differs from *J. arcticus* in its much taller and more rigid *scapes*, larger, and decidedly branched *panicle*, and rounded, not trigonous, *capsules*. Both have exceedingly creeping *roots*, more so than any other species I am acquainted with. *Flowers* dark brown, with a pale line down the centre of each segment.

5. J. *filifórmis*, Linn. (*thread Rush*); scapes filiform, panicle simple of few flowers from near the middle of the scape, leaflets of the perianth lanceolate acuminate nearly equal larger than the obovate capsule, stamens 6. *E. Bot. t.* 1175. *E. Fl. v. ii. p.* 162.

Stony margins of lakes in Cumberland, Westmoreland, and Lancashire. Ben-Lawers, *Mr. Dickson*; and several parts of Scotland, *Mr. G. Don;* but I have never seen Scottish specimens. *Fl.* July, Aug. 4.—*Root* creeping. *Plant* remarkable for its slender *scapes*, greatly extended beyond the *panicle;* for its pale greenish *flowers* and short *capsules*.

** *Leaves none. Barren scapes resembling leaves. Panicle terminal. Flowers aggregated.*

6. J. *marítimus*, Sm. (*lesser sharp Sea Rush*); barren scapes and outer bracteas pungent, panicle very compound, clusters 4—8-flowered, leaflets of the perianth equal lanceolate acute as long as the elliptical mucronated capsule. *E. Bot. t.* 1725. *E. Fl. v. ii. p.* 159.—*J. acutus, β. Linn.*

Salt marshes in various parts of England, but not frequent. St. Andrews, Scotland, *Mr. J. Mackay.* Coast of Ayrshire, *Mr. J. Smith.* Kingstown and other places in Ireland, *Mr. J. T. Mackay. Fl.* Aug. 4.—In this and the following species, the outer *bractea*, or portion that

rises above the panicle, is broad and membranous at the base, and less like a continuation of the scape than in the preceding division.

7. J. *acútus*, Linn. (*great sharp Sea Rush*); barren scapes and outer bracteas pungent, panicle very compound mostly compact, clusters 2—4-flowered, leaflets of the perianth equal, interior ones with a broad membranous margin at the apex shorter than the broadly ovate suddenly acuminated capsule. *E. Bot. t.* 1614. *E. Fl. v. ii. p.* 158.

Sandy sea-shores, principally on the West of England and Wales. Norfolk. Wicklow and Arklow, Ireland, *Mr. Hodgins*. *Fl.* July. 4. —Larger and stouter than the last, especially in the *capsules*, which are of considerable size, much protruded, rich brown and glossy.

**** Stems leafy. Leaves rounded or subcompressed and distinctly jointed internally. Panicle terminal. Flowers aggregated or fascicled.*

8. J. *acútiflorus*, Ehrh. (*sharp-flowered jointed Rush*); leaves subcompressed, panicle very compound pyramidal, clusters 5—6-flowered, leaflets of the perianth unequal lanceolate very acute nearly as long as the narrow-ovate subacuminate capsule. *E. Bot. p.* 2143. *E. Fl. v. ii. p.* 174.—*J. articulatus*, *E. Bot. t.* 238.

Bogs, very common. *Fl.* June—Aug. 4.—1—2 f. high, erect. *Leaves* 3—4 on a stem, distinctly nodoso-articulate when dry. *Panicle* diffuse, in fruit spreading. *Flowers* several together, greenish-brown. *General bracteas* short, membranaceous, scarcely leafy. *Capsules* pale-coloured.

9. J. *lampocárpus*, Ehrh. (*shining-fruited jointed Rush*); stem ascending and as well as the leaves compressed, panicle compound spreading, clusters 4—6-or 8-flowered, leaflets of the perianth equal rather obtuse shorter than the acute triquetrous oblongo-lanceolate capsule. *E. Bot. t.* 2143. *E. Fl. v. ii. p.* 175.—*β.* panicles less branched, clusters of more numerous flowers. *J. polycephalus*, *Don*, *MSS.*—*Hook. Scot. i. p.* 110, scarcely of *Pursh?* —*J. nigritellus*, *E. Bot. Suppl. t.* 2643.

Boggy grounds and watery places, frequent. *Fl.* July, Aug. 4.— Very similar to the last; but with larger *flowers*, and deep brown shining *capsules*. The *var. β.* has more numerous *flowers* in each cluster or head, sharper leaflets to the *perianth*, pale *capsules*, and it seems almost to unite *J. acutiflorus* with *J. lampocarpus*.

10. J. *obtusiflórus*, Ehrh. (*blunt-flowered jointed Rush*); stem and leaves erect rounded, panicle very compound spreading and divaricated, clusters 3—6-flowered, leaflets of the perianth equal rather obtuse about equal in length with the oval trigonous capsule. *E. Bot. t.* 2144. *E. Fl. v. ii. p.* 176.

Wet pastures and marshes, not unfrequent. *Fl.* Aug. 4.—Distinct as this species assuredly is, it has very frequently been confounded with the preceding ones of this division.

11. J. *uliginósus*, Sibth. (*lesser Bog jointed Rush*); stem erect

and often swollen at the base or decumbent and rooting, leaves bristle-shaped, panicle nearly simple irregular, clusters few or many-flowered, leaflets of the perianth equal oblong subacute nearly as long as the elliptical capsule. *E. Bot. t.* 801. *E. Fl. v. ii. p.* 169. —*J. bulbosus, Linn.—J. subverticillatus, Wulf.—Host, Gram. Austr. v. iii. t.* 88. *E. Fl. v. ii. p.* 170.

Boggy and swampy places, and often partly floating in shallow water. *Fl.* Aug. ♃.—This is indeed an extremely variable plant, depending much for its appearance on soil and situation. In rather dry places it often rises erect, 3—4 inches high, having a bulbous or swollen base, and is then the original *J. bulbosus* of *Linn.* At other times the *stems* are spreading or procumbent, when it becomes the *J. subverticillatus* of Wulfen. Again these procumbent stems often take root at intervals, and are proliferous; or, when growing in water, they float upon the surface and spread their long flaccid branches in all directions. The ramifications and panicles are exceedingly irregular; the latter few-flowered. It is often extremely difficult to distinguish this from small varieties of *J. lampocarpus.*

**** *Stems leafy. Leaves plane or grooved above; not distinctly jointed.*

12. J. *castáneus*, Sm. (*clustered alpine Rush*); stem rounded, leaves hollow grooved above rounded at the back, heads of flowers generally single sessile or peduncled shorter than the bractea, capsules ovate bluntly trigonal nearly twice as long as the perianth. *E. Bot. t.* 90. *E. Fl. v. ii. p.* 173.

Rare, on the elevated mountains of Breadalbane. In the county of Durham, *Rev. Mr. Harriman, (E. Fl.) Fl.* July. ♃.—"*Root* slightly creeping, with short runners or lateral shoots. *Stem* hollow. *Leaves* with the channelled side very thin and membranaceous; and within are found distant transverse partitions. Upper part of the leaf rounded and compressed. *Leaflets* of the *perianth* elliptic-lanceolate, acute and 3-ribbed. *Style* breaking off at a joint. *Capsule* shining, and as well as the perianth and inner bractea of a deep chocolate colour." *W. Wilson.*

13. J. *trífidus*, Linn. (*three-leaved Rush*); sheaths fringed those at the base of the stem leafless, bracteas resembling the setaceous solitary stem-leaf, heads of about three terminal flowers. *E. Bot. t.* 1482. *E. Fl. v. ii. p.* 163.

Rocky places, on the Highland mountains of Scotland. *Fl.* July, Aug. ♃.—Very unlike any other British *Juncus. Root* creeping. Lower *sheaths* with at most a short awn, scarcely to be termed a leaf. A solitary *leaf* is on the stem, generally near the summit, 2—3 inches long, linear-setaceous. *Bracteas* 2 under each head of 1—3 *flowers.* "*Capsule* not at all angular, but rounded-elliptical with a furrowed beak." *W. Wilson.*

14. J. *compréssus*, Jacq. (*round-fruited Rush*); stem erect compressed, leaves linear-setaceous grooved, panicle terminal compound subcymose generally shorter than the bracteas, capsules roundish-ovate longer than the obtuse incurved leaflets of the

perianth. *Bich. in Tr. of Linn. Soc. v. xii. p.* 307. *E. Fl. v. ii. p.* 165.—β. panicle nearly simple few-flowered longer than the bracteas. *Hook. Scot. i. p.* 107.—*J. bothnicus, Wahl.*—*J. cænosus, Bich. in Linn. Trans. v. xii. p.* 309. *E. Fl. v. ii. p.* 166. *Bich. in E. Bot. Suppl. t.* 2680.

Wet marshy places, common.—β. In salt marshes. *Fl.* Aug. ♃.—Having now seen various specimens both of the *J. cænosus* of Mr. Bicheno and *J. bothnicus* of Wahlenberg, I feel confirmed in the opinion expressed in *Fl. Scotica*, that they are but varieties of *J. compressus.*

15. J. *ténuis*, Willd. (*slender spreading Rush*); stem above shortly dichotomous panicled, leaves linear-setaceous grooved, flowers solitary approximate mostly sessile, capsules nearly sphærical shorter than the very acuminated leaflets of the perianth. *Pursh, Fl. Am. v. i. p.* 228. *Hook. Scot. i. p.* 108.—*J. gracilis, E. Bot. t.* 2174.—*J. Gesneri, E. Fl. v. ii. p.* 167.

Moist mountains of Clova, *D. Don. Fl.* July. ♃.—This rare British plant seems abundant in America, and I possess specimens likewise from various parts of Europe. It is allied to *J. bufonius*, yet really distinct. *Radical leaves* several; *stems* bare of leaves up to the division near the top, where is one leaf immediately beneath the foliaceous *bracteas.* In the axils of the forks are 2 or 3 large, nearly sessile *flowers*, and 2 or 3 unilateral ones on the branches. The *capsule* is very different from that of the following species. My Scottish specimens entirely agree with the true American *J. tenuis*, which I have from Dr. Boott and various American Botanists. I therefore retain the name.

16. J. *bufónius*, Linn. (*Toad Rush*); stem dichotomous above panicled, leaves filiform setaceous grooved, flowers solitary unilateral mostly sessile, capsules elliptical ovate much shorter than the very acuminated leaflets of the perianth. *E. Bot. t.* 802. *E. Fl. v. ii. p.* 168.

Frequent in moist, or watery places, especially such as have been overflowed in winter. *Fl.* Aug. ⊙.—4—6 inches high. *Leaves* few, slender, only one on the stem, generally near the middle. The divisions, or ramifications of the *stem*, as they are called, more properly, I think, belong to the panicle, at the base of which are foliaceous *bracteas.* Whole plant very pale-coloured. *Flowers* green, with white membranous margins to the *leaflets* of the *perianth.*

***** *Leaves all radical. Flowers terminal.*

17. J. *squarrósus*, Linn. (*Heath Rush*); leaves setaceous (rigid) grooved, panicle terminal elongated compound, capsules elliptical ovate. *E. Bot. t.* 933. *E. Fl. v. ii. p.* 164.

Moory and heathy ground, abundant. *Fl.* June, July. ♃.—Whole plant exceedingly rigid, 6 inches to a foot high. *Leaves* subsecund, about half as long as the *scape. Bracteas* lanceolate, membranaceous. *Leaflets* of the *perianth* ovato-lanceolate, glossy brown with a pale line down the middle, scariose at the edges. *Capsules*, as in almost all this Genus, tipped with a short mucro, the remains of the *style*, palish-brown.

18. J. *capitátus*, Willd. (*capitate Rush*); leaves filiform (soft) plane or grooved above, heads of flowers sessile terminal shorter than the bracteas, leaflets of the perianth acuminato-aristate. *E. Fl. v. ii. p.* 171. *E. Bot. Suppl. t.* 2644.—*J. supinus*, *Bich.*—*J. ericetorum*, *DC.*

Found by Mr. Hudson in the island of Jersey. (*E. Fl.*) *Fl.* May, July. ⊙.—*Plant* 2—4 inches high, flaccid. *Leaves* entirely radical, about half the length of the *scape*, erect. *Heads* rather large, in proportion to the size of the plant, of 3—6 sessile *flowers*, occasionally proliferous. This species is well distinguished by the setaceous inclined *bractea*, (with its sheathing membranaceous base) which is longer than the heads of flowers, and by the acuminato-aristate *perianth*.

19. J. *biglúmis*, Linn. (*two-flowered Rush*); leaves linear-subulate compressed (not channelled) gradually dilated into the sheathing base, flowers 2, one of them pedicelled mostly shorter than the foliaceous involucre, capsule turbinate retuse rather longer than the obtuse leaflets of the perianth. *E. Bot. t.* 898. *E. Fl. v. ii. p.* 172.

Boggy places on the Highland mountains: not unfrequent on the Breadalbane range, but rare in other parts of Scotland. *Fl.* July, Aug. ♃.—2 to 4 inches high; growing not in tufts, but scattered; and a much rarer species than the following, small specimens of which have often been mistaken for it. "*Leaves* with distant transverse partitions within, but not longitudinally divided." *Mr. W. Wilson.*

20. J. *triglúmis*, Linn. (*three-flowered Rush*); leaves linear-subulate channelled bitubular their sheaths auricled above, flowers mostly 3, generally as long as the membranaceous bractea, capsule elliptical acute longer than the rather obtuse leaflets of the perianth. *E. Bot. t.* 899. *E. Fl. v. ii. p.* 106.

Boggy places among the mountains in the north of England, Wales, and especially the Highlands of Scotland. *Fl.* July, Aug. ♃.—Mr. W. Wilson has well studied, in living plants, the character of this and the preceding species of Rush. "*Stems*," he says, of this plant, "several from the same root, perfectly rounded, not channelled on one side, as in *J. biglumis*, naked above, and generally with 2, and sometimes 3 leaves near the base. *Leaves* with dilated *sheaths*, which are auricled at the top, setaceous, channelled, *bitubular*, with transverse partitions; *radical leaves* also setaceous, more slender and longer than in *J. biglumis*. Sometimes 4 *flowers* are found together, the additional ones placed lower down and separated from the rest. Outer *bractea* sometimes as large as in *J. biglumis*; each flower has one bractea at its base. *Cal. leaves* more membranous than in the last, narrower and more acute. *Capsule* longer than the calyx, with a tapering, rather acute extremity, and with indistinctly furrowed sides; colour almost black." *W. Wilson.*

21. Lúzula. *De Cand.* Wood-rush.

1. L. *sylvática*, Bich. (*great hairy Wood-rush*); leaves hairy, panicle subcymose, peduncles elongated of about 3 flowers, leaflets of the perianth aristate as long as the capsule. *E. Fl. v. ii. p.* 181.

—*L. maxima, DC.—Hook. Scot. i. p.* 110.—*Juncus sylvaticus, Huds.—E. Bot. t.* 737.—*J. pilosus δ, Linn.*

Woods, hilly places, and upon the mountains, frequent. *Fl.* May, June. ♃.—1—1½ ft. high. *Leaves* broad, shining, striated. *Floral bracteas* ciliated. *Caps.* with a very sharp point, deep brown. *Seeds* elliptic-ovate, with scarcely any crested appendage on the top.

2. L. *pilósa*, Willd. (*broad-leaved hairy Wood-rush*); leaves hairy, panicle subcymose, peduncles 1-flowered bent back, leaflets of the perianth acuminate rather shorter than the obtuse capsule. *Hook. Scot. i. p.* 110. *E. Fl. v. ii. p.* 178.—*Juncus pilosus, Linn. —E. Bot. t.* 736.

Woods, frequent. *Fl.* April, May. ♃.—Much smaller than the last, with the *flowers* standing singly on the *panicle*, dark brown. *Seeds* with a curved appendage at the top.

3. L. *Forstéri*, De Cand. (*narrow-leaved hairy Wood-rush*); leaves hairy, panicle subcymose but little branched, peduncles 1-flowered erect, leaflets of the perianth narrow acuminated a little longer than the acute capsule. *Hook. Scot. i. p.* 110. *E. Fl. v. ii. p.* 179.—*Juncus Forsteri, E. Bot. t.* 1293.

Groves and thickets, especially on a calcareous or gravelly soil. (*E. Fl.*) More common in Surry than *L. pilosa*, *J. S. Mill, Esq.* About Forfar, and banks of the Doune, Ayrshire, *Mr. Jas. Wilson. Fl.* May, June. ♃.—Much slenderer than the last in every part and taller. *Seed* with a large oblong crested appendage on the top.

4. L. *campéstris*, Br. (*Field Wood-rush*); leaves hairy, spikes sessile and pedunculated, leaflets of the perianth acuminate longer than the obtuse capsule. *E. Fl. v. ii. p.* 181.—*Juncus campéstris, Linn.—E. Bot. t.* 672.—*β.* taller, with the spikes of flowers collected into an almost orbicular head. *Hook. Scot. i. p.* 110. *L. congesta, Lej.—E. Fl. v. ii. p.* 181.

Woods and dry pastures, frequent, *α.* and *β.* growing together. *Fl.* April, May. ♃.—4—6 or 8 inches, or even a foot or more high. *Flowers* collected into ovate or oblong, nearly erect *spikes*, of a reddish-brown colour, sometimes very pale. In *β.*, the *spikes* are nearly all sessile. De Candolle, whom Smith quotes as the authority for considering this a distinct species, himself now in the *Bot. Gallicon*, makes it a *var.* of *campestris.* Indeed we find various intermediate states.—Even the *L. sudetica* of DC. will probably prove not permanently distinct from *campestris.*

5. L. *arcuáta*, Hook. (*curved Mountain Woodrush*); leaves canaliculate hairy, panicle subumbellate of few heads of 3—5 flowers with long drooping peduncles, bracteas membranous fringed, capsule ovato-globose shorter than the broadly lanceolate leaflets of the perianth. *Hook. in Fl. Lond. N. S. t.* 153. *E. Fl. v. ii. p.* 183.

On the barren stony summits of the great Cairngorum range of mountains.—Upon Fonniven, a high mountain in Sutherland, *Prof.*

Graham. Fl. July. 4.—The smallest of our *Luzulæ* and one of the rarest and most distinct. It comes nearer Mr. Brown's *L. hyperborea* than any other, but that wants the curved peduncles.

6. L. *spicáta*, De Cand. (*spiked Mountain Wood-rush*); leaves somewhat canaliculated, spike solitary drooping compound, spikelets shorter than their subdiaphanous mucronated bracteas, leaflets of the perianth mucronato-aristate about as long as the rounded capsule. *Hook. Scot. i. p.* 111. *E. Fl. v. ii. p.* 182.

High mountains in the north of England, and more abundantly in Scotland. *Fl.* July. 4.—6—8 inches high, slender. *Leaves* small, narrow, hairy only at the margins of the *sheaths*. *Spike* dark-coloured, interrupted near the base. *Capsule* very dark, shining-brown, acute.—Well distinguished by its drooping compound spike and narrow leaves.

HEXANDRIA—DIGYNIA.

22. Oxýria. *Hill.* Mountain-Sorrel.

1. O. *renifórmis*, Hook. (*kidney-shaped Mountain-Sorrel*). *Hook. Scot. i. p.* 111. *E. Fl. v. ii. p.* 188.—*Rumex digynus, Linn.*—*E. Bot. t.* 910.

North of England, Wales and Scotland, abundant in alpine situations, especially amongst moist rocks and within reach of the spray of cascades. *Fl.* July, Aug. 4.—*Stems* 8—10 inches high, with rarely more than one leaf, often naked. *Radical leaves* numerous, all reniform, with a more or less evident obtuse sinus at the apex, on long footstalks, having membranaceous *stipules* at their base. *Racemes* and *pedunceles* branched, with minute, ovate, membranous *bracteas* at the base of each ramification. *Pedicels* thickened upwards. *Flowers* erect, small. *Stam.* 6, shorter than the petals. *Pistil* nearly orbicular-compressed, notched, with 2, spreading feathery *styles*. *Fruit* a *nut*, enclosed in an *utricle*, with a remarkably broad winged border, tipped with the *styles* situated in rather a deep notch; and having at the base the pointed petals, not at all enlarged.

The leaves yield a most agreeably acid flavour, much resembling that of the *Wood-Sorrel* (*Oxalis acetosella*).

HEXANDRIA—TRIGYNIA.

23. Rúmex. *Linn.* Dock and Sorrel.

* *Plants not acid. Flowers perfect.* (Lapathum. *Dock*).

1. R. *Hydrolápathum*, Huds. (*great Water Dock*); enlarged petals ovato-deltoid reticulated each with a tubercle entire, leaves lanceolate the lower ones cordate at the base, whorls mostly leafless. *E. Fl. v. ii. p.* 195. *Reich. Ic. Bot. t.* 370.—*R. aquaticus, Sm. Fl. Br. p.* 394. *E. Bot. t.* 2104. *Hook. Scot. i. p.* 112.

Ditches and river-sides, frequent. *Fl.* July, Aug. 4.—The largest of our *Docks*, 3—5 feet high; some of the lower *leaves* 1½ ft. *Root* large, very astringent. Enlarged *petals* with prominent veins, and large oblong tubercles.

2. R. *crispus*, Linn. (*curled Dock*); enlarged petals broadly

cordate entire reticulated, tubercle large coloured on one, obsolete on the other two leaves lanceolate waved acute, upper whorls leafless. *E. Bot. t.* 1998. *E. Fl. v. ii. p.* 191.

Way-sides and near houses, pastures, &c. frequent. *Fl.* June, July. ♃.—2 or 3 feet high. *Lower leaves* the broadest, all waved and crisped at the margins. *Whorls* of *flowers* very numerous and crowded. Here the enlarged *petals* are truly cordate. Most authors say that each petal bears a *tubercle;* but in my specimens, in those gathered by Mr. Wilson in Lancashire, and in some that I have from Switzerland, one only bears a large oblong orange-coloured *tubercle*, the others have only the midrib a little swollen at the base.

3. R. *aquáticus*, Linn. (*grainless Water Dock*); enlarged petals broadly cordate reticulated without tubercles, leaves lanceolate, the lower ones cordato-oblong crisped and waved, whorls crowded mostly leafless. *Reich. Ic. Bot. t.* 369. *Svensk, Bot. t.* 209.

Moist places, near Ayr. *Mr. Goldie. Fl.* July. ♃.—This was sent to me as a new species of *Rumex* by Mr. Goldie. It comes indeed very near *R. crispus*, but the enlarged *petals* are quite destitute of grains or *tubercles*, and in this respect it agrees exactly with the true *aquaticus* of Linn.

4. R. *alpínus*, Linn. (*alpine Dock, or Monk's Rhubarb*); enlarged petals cordate reticulated obscurely toothed at the margin, one bearing a small grain, leaves broadly cordate ample obtuse, whorls leafless crowded, flowers monœcious. *Campd. Rum. p.* 105. —*R. cordifolius, Horn.—Reich. Ic. Bot. t.* 487.

Way-side on the road from Helensburgh to the head of the Gare-Loch.—Glen Luss, near Loch Lomond, *Rev. Mr. Berkeley. Fl.* July. ♃. —This most distinct species of *Rumex* has been found both by the *Rev. Mr. Berkeley* and myself in the Scottish Highlands, and far removed from any place where it is at all likely to have been cultivated,—for I am aware that its *root* was formerly employed in lieu of *Rhubarb*. *Leaves* a span broad, cordate, very obtuse, wrinkled and reticulated; *upper ones* ovato-lanceolate: *whorls* of *flowers* very dense.

5. R. *sanguíneus*, Linn. (*bloody-veined*, and (β.) *green-veined Dock*); enlarged valves (small) oblong entire, one at least bearing a tubercle, leaves lanceolate somewhat cordate, whorls distant on long generally leafless branches.—α. Leaves with bright red veins. *R. sanguineus, Linn.—E. Bot. t.* 1533. *Hook. Scot. i. p.* 112. *E. Fl. v. ii. p.* 190.—β. Leaves with green veins. *R. viridis, Sibth. —Sm. Fl. Brit. p.* 390.—*R. Nemolapathum, Ehrh.*

Shady pastures, woods and road-sides.—β. far more frequent than α. *Fl.* July. ♃.

6. R. *acútus*, Linn. (*sharp Dock*); "enlarged petals oblong obscurely toothed all tuberculated, leaves oblong-heart-shaped pointed, clusters leafy." *Sm.—E. Bot. t.* 724. *E. Fl. v. ii. p.* 192.

Moist deep soils, and in watery places, not uncommon. *Fl.* July. ♃. —Much resembling *var.* β. of the last species, and appearing to me to differ chiefly in its leafy *whorls* and more coloured *flowers*. But Smith

says it is a totally distinct plant, and that it always grows in watery places.

7. R. *púlcher*, Linn. (*Fiddle Dock*); enlarged petals ovate deeply toothed, one of them principally bearing a tubercle, root-leaves panduriform, stem spreading. *E. Bot. t.* 1576. *E. Fl. v. ii. p.* 193.

Pastures, way-sides, &c. *Fl.* Aug. ♃.—*Stems* very straggling; *whorls* distant, on slender leafy branches.

8. R. *obtúsifolius*, Linn. (*broad-leaved Dock*); enlarged petals ovate toothed at the base, one principally bearing a tubercle, root-leaves ovato-cordate, stem roughish. *E. Bot. t.* 1999. *E. Fl. v. ii. p.* 192.

Way-sides and waste places, too frequent. *Fl.* July. ♃.—2—3 ft. high. *Whorls* rather close, somewhat leafy. Distinguishable by its broad and obtuse radical *leaves*, which are generally crisped at the margin. *Stem* scabrous between the elevated lines or ridges.

9. R. *marítimus*, Linn. (*golden Dock*); enlarged petals deltoid fringed with setaceous teeth and bearing grains, whorls much crowded, leaves linear-lanceolate. *E. Bot. t.* 723. *E. Fl. v. ii. p.* 193. —*R. aureus, With.*

Marshes, principally near the sea. *Fl.* July, Aug. ♃.—Well distinguished from every preceding species by its narrow *leaves*, excessively crowded *flowers*, bright, almost orange-coloured, enlarged *petals*, and their setaceous, or, I might almost say, spinous *teeth*.

10. R. *palústris*, Sm. (*yellow Marsh Dock*); enlarged petals lanceolate with short setaceous teeth near the base and bearing tubercles, whorls remote, leaves linear-lanceolate. *E. Bot. t.* 1932. *E. Fl. v. ii. p.* 194.

Marshy places, remote from the sea. *Fl.* July. ♃.—Nearly allied to the last, and I had an idea that it was not truly distinct: but Sir J. E. Smith considers it to be permanently different in the form of the *petals*, when in *seed*, and in the number, shape, length and situation of the *teeth* which border them.

** *Flowers diœcious. Plants acid.* (Acetosa *or* Sorrels.)

11. R. *acetósa*, Linn. (*common Sorrel*); enlarged petals orbiculari-cordate reticulated scarcely tuberculated, leaves oblongo-sagittate. *E. Bot. t.* 127. *E. Fl. v. ii. p.* 196.

Meadows and pastures, frequent. *Fl.* June, July. ♃.—1—2 feet high. *Petals* becoming large, purplish, orbiculari-cordate, obtuse, membranous, reticulated with veins; *tubercles* very small, almost obsolete. I do not find the enlarged petals to be ovate, as Sir J. E. Smith describes them; nor does Mr. Wilson; but orbicular and cordate.

12. R. *acetoséllа*, Linn. (*Sheep's Sorrel*); enlarged petals ovate not tuberculated, lower leaves lanceolato-hastate, lobes entire. *E. Bot. t.* 1674. *E. Fl. v. ii. p.* 197.

Dry pastures, frequent. *Fl.* May—July. ♃.—Variable in its size, from 2—10 inches, and in the form of its *leaves*; for, frequently, *only*

the *radical* ones are of the shape above described, at other times many of the *cauline* ones are so too; the rest are lanceolate, more or less petiolate, entire. Every part is much smaller than the last. In very dry situations and at the end of summer the whole plant becomes of a rich red colour.

24. Tofiéldia. *Huds.* Scottish Asphodel.

1. T. *palústris*, Huds. (*Scottish Asphodel*); spike ovate, stem glabrous filiform nearly leafless, petals obovate obtuse, germen 3-lobed, involucre at the base of the pedicel. *E. Bot. t.* 536. *Hook. in Fl. Lond. N. S. t.* 105. *E. Fl. v. ii. p.* 198.—*T. borealis, Wahl.*—*Anthericum calyculatum, Linn.*

Mountains of England, Scotland and Ireland, in boggy places; not rare. *Fl.* July, Aug. ♃.—4—6 inches high. *Leaves* almost wholly radical, in fascicles, linear, sword-shaped, equitant. *Flowers* small, pale yellowish-white.

25. Scheuchzéria. *Linn.* Scheuchzeria.

1. S. *palústris*, Linn. (*Marsh Scheuchzeria*). *E. Bot. t.* 1801. *E. Fl. v. ii. p.* 199.

In a marsh at Lakeby Car, near Borough-bridge, discovered by the *Rev. James Dalton;* and at Thorne Moor, near Doncaster, *Mr. R. Harrison.* *Fl.* June. ♃.—A singular and very rare plant, having few, semi-cylindrical, slender, rush-like *leaves;* a *scape* with large *bracteas*, terminated by a *raceme* of greenish *flowers*. *Perianth* and *stamens* reflexed. *Germens* 3, ovate, obtuse, with lateral, linear, downy *stigmas*. *Capsules* singularly inflated.

26. Triglóchin. *Linn.* Arrow-grass.

1. T. *palústre*, Linn. (*Marsh Arrow-grass*); fruit 3-celled nearly linear. *E. Bot. t.* 366. *E. Fl. v. ii. p.* 200.

Wet meadows, and by the sides of rivers and ditches in marshy situations, plentiful. *Fl.* Aug. ♃.—*Leaves* all radical, linear, fleshy, slightly grooved on the upper side, sheathing and membranous at the base. *Scape* 8—10 inches high, terminating in a lax, simple *spike* or *raceme*. *Flowers* small, greenish. *Capsules* 3, linear, united by a common receptacle, so as to form one 3-celled *fruit*, each cell separating at its base and suspended by the extremity, containing one *seed* and not dehiscent. —Mr. W. Wilson finds that the leaves, when bruised, yield a very fetid smell, and that the root, under certain circumstances at least, is a creeping one: sending out jointed, scaly runners, with comparatively large, ovate, shortly acuminated *bulbs* at the extremity. These bulbs at the end of the jointed runners have very much the appearance of a scorpion's tail.

2. T. *marítimum*, Linn. (*Sea-side Arrow-grass*); fruit 6-celled ovate. *E. Bot. t.* 255. *E. Fl. v. ii. p.* 201.

Salt-marshes, not unfrequent. *Fl.* May, Aug. ♃.—Larger than the last and stouter, differing essentially in its fruit, which is formed of 6 combined *capsules*, constituting a broadly ovate *fruit;* not separating from the base and suspended by their summits as in *T. palustre*. Even when in flower, the same form is observable in the germen as in the fruit.

27. Cólchicum. *Linn.* Meadow-Saffron.

1. C. *autumnále*, Linn. (*common Meadow-Saffron*); leaves plane broadly lanceolate erect. *E. Bot. t.* 133. *E. Fl. v. ii. p.* 202. —*Var.* with late, green, abortive flowers. *E. Bot. t.* 1432.

Meadows and pastures, chiefly in the north-west of England, *Ray*. In Suffolk, Oxfordshire, Staffordshire, Cheshire, (*Mr. Jonathan Gaskarth*), and other places. Alloa, Scotland; *Lightf. Fl.* Sept. Oct.—Fruit and leaves in the spring. 4.—*Bulb* solid. The *flowers* appear in succession, rising from the *bulb*, with a very long, narrow tube, surrounded at the base with a membranous sheath. The *stamens* are inserted on the oblong-ovate *segments* of the pale purple *perianth*. *Germen* at the base of the bulb, its long thread-like *styles* running up the whole length of the tube. The *leaves* and *fruit* appear in spring and are withered before summer. Its properties are said to be similar to those of the *officinal Squill*, and it has been employed as a substitute for the famous *Eau médicinale*.

HEXANDRIA—HEXAGYNIA.

28. Actinocárpus. *Br.* Star-fruit.

1. A. *Damasónium*, Br. (*common Star-fruit*); capsules 6 subulate compressed opening longitudinally, leaves 5-nerved. *Hook. in Fl. Lond. N. S. cum ic.*—*Alisma Damasonium*, *Linn.*—*E. Bot. t.* 1615. *E. Fl. v. ii. p.* 204.

Ditches and pools, mostly in a gravelly soil, and chiefly in the middle and south-eastern counties of England. *Fl.* June, July. 4.—*Leaves* radical, on long *petioles*, floating, elliptical. *Scapes* with a terminal *umbel*, generally proliferous. *Petals* white, very delicate, obcordate, each having a yellow spot at the base. *Capsules* with two *seeds* upon evident stalks, one from the upper angle, horizontal, the other from the lower angle of the axis, erect, oblong, tubercled and transversely striated, compressed, with a deep furrow on each side, occasioned by the form of the *embryo* within, which is cylindrical, bent double, somewhat like a horse-shoe.

HEXANDRIA—POLYGYNIA.

29. Alísma. *Linn.* Water-Plantain.

1. A. *Plantágo*, Linn. (*greater Water-Plantain*); leaves ovate acute, fruit depressed, capsules obtusely trigonal. *E. Bot. t.* 837. *E. Fl. v. ii. p.* 203.

Near the margins of lakes, rivers and ditches, frequent. *Fl.* July, 4. —2—3 ft. high. *Leaves* all radical, on long stalks. *Scape* branched upward; *branches* all whorled, bracteated, compound: *flowers* of a pale rose-colour. *Embryo* curved, as in *Actinocarpus*.

2. A. *nátans*, Linn. (*floating Water-Plantain*); leaves elliptical obtuse, stem floating and rooting, peduncles simple. *E. Bot. t.* 775. *E. Fl. v. ii. p.* 204.

Lakes in North Wales and Cumberland: very rare in Scotland. Black Loch, 6 miles from Stranraer, *Mr. J. Smith.* On Howth and in Cunnamara, Ireland; *Mr. J. T. Mackay. Fl.* July, Aug. ♃.—At the base of the plant are long, linear-lanceolate, membranous *scales*, or abortive *root-leaves*. *Stem-leaves* floating, on long stalks, scarcely nerved.

3. A. *ranunculoídes*, Linn. (*lesser Water-Plantain*); leaves all radical linear-lanceolate, scape umbellate, fruit globose squarrose, capsules acute. *E. Bot. t.* 326. *E. Fl. v. ii. p.* 205.—β. with creeping runners. *A. repens*, "*Davies' Welsh Bot.* 36." *E. Fl. v. ii. p.* 205.

Ditches and turfy bogs, not unfrequent in England, Scotland, and Ireland.—β. In lakes, North Wales. *Fl.* Aug. Sept. ♃.—In general appearance most allied to *A. Plantago*, especially the narrow-leaved Scottish variety of that plant. But it is much smaller, having larger *flowers*, pale-coloured, arranged in *umbels*, which are often proliferous. The most essential character is to be found in the *germen* and *fruit*.

CLASS VII. HEPTANDRIA. 7 *Stamens.*

ORD. I. MONOGYNIA. 1 *Style.*

1. Trientális. *Cal.* of 7 leaves. *Cor.* monopetalous, in 7 deep segments, regular and flat. *Caps.* 1-celled, with 7 valves, and many seeds on a fleshy, central, free receptacle. *Seeds* with a reticulated tunic.—*Nat. Ord.* Primulaceæ, *Juss.*—Named from *triens*, a third part; and said to allude to this plant being one-third of a foot in height. But such a meaning is very equivocal.

(*See* Ulmus *in* Cl. V. Ord. II.)

HEPTANDRIA—MONOGYNIA.

1. Trientális. *Rupp.* Chickweed Winter-green.

1. T. *europæa*, Linn. (*European Chickweed Winter-green*); leaves oblongo-obovate obtuse. *E. Bot. t.* 15. *Hook. in Fl. Lond. N. S. t.* 161. *E. Fl. v. ii. p.* 208.

Woods in the north of England, but rare. Abundant in many parts of the Highlands of Scotland. Not found in Ireland. *Fl.* June. ♃.—*Root* filiform, creeping. *Stems* 4—6 inches high, with 2 or 3 small, distant *leaves*, and 4—7 terminal, whorled larger ones; from the centre of which arise 1—4, slender, single-flowered *peduncles*. *Cal.-leaflets* almost subulate, varying in number from 6—9, as do all the other parts of the flower, and the valves of the capsule. The *fruit* had always been misunderstood, till Sir J. E. Smith described it in Rees' Cyclopædia. The beautiful covering, like the finest white lace, of its *seeds*, had been taken for a pericarp; because few Botanists had seen the very fugacious, horny *valves* of its *capsule*. (*See Fl. Lond. N. S. t.* 161). This is assuredly one of the most interesting of our Highland vegetable productions; and like *Butomus*, is the only British example of a plant of its class.

CLASS VIII. OCTANDRIA. 8 *Styles.*

ORD. I. MONOGYNIA. 1 *Style.*

* *Flowers complete, (having Cal. and Cor.)*

1. Acer. *Cal.* 5-cleft, inferior. *Pet.* 5. *Germen* 2-lobed. *Capsules* 2, united at the base, each with a long winged membrane, (hence called a *Samara*), 1-celled, 1—2-seeded.—*Nat. Ord.* Acerineæ, *Juss.*—Named from *acer*, *sharp* or *hard* (*ac*, Celtic), on account of the hardness of the wood, which was employed in fabricating spears, pikes, &c.—The *Maple* is the badge of the Clan *Oliphant.*

2. Chlóra. *Cal.* inferior, of 8 deep segments. *Cor.* of 1 *petal*, nearly rotate. *Stigmas* 2, bifid. *Caps.* 1-celled, 2-valved, many-seeded.—*Nat. Ord.* Gentianeæ, *Juss.*—Name derived from χλωρος, *pale*, or *yellowish green*, in allusion to the colour of its flowers.

3. Menziésia. *Cal.* cleft to the base into 4—5 deep segments, inferior. *Cor.* of 1 *petal*, ventricose. *Stam.* 8—10. *Capsule* 4—5-celled, the dissepiments formed by the inflexed margins of the valves, and opening between these dissepiments.—*Nat. Ord.* Ericeæ, *Juss.*—Name,—"Nomen dedi," says the learned founder of this Genus, "in honorem *Archibaldi Menzies* Scotici, peregrinatoris et botanici indefessi, priscæ fidei ac urbanitatis viri."

4. Eríca. *Cal.* of 4 leaves, inferior. *Cor.* of 1 *petal*, campanulate, often ventricose. *Capsule* 4-celled, 4-valved, dissepiments from the middle of the valves.—*Nat. Ord.* Ericeæ, *Juss.*—Named from ερικω, to *break*; because it was formerly supposed to have the power of destroying calculi in the bladder.

5. Callúna. *Cal.* of 4, coloured leaves, inferior, concealing the *cor.*, accompanied by 4 *bracteas*, resembling an outer calyx. *Cor.* campanulate. *Caps.* 4-celled, 4-valved; dissepiments adhering to the *axis* of the fruit; *valves* opening at the dissepiments and separating from them.—*Nat. Ord.* Ericeæ, *Juss.*—Named from καλλυνω, to *cleanse* or *adorn*, and hence peculiarly applicable, as Sir J. E. Smith observes, to this plant, whether we consider the beauty of its flowers, or the circumstance of Brooms being made of its twigs.—The *Ling* is the badge of the Clan *Macdonell.*

6. Vaccínium. *Cal.* 4—5-toothed, superior. *Cor.* of 1 *petal*, ovate, campanulate or rotate, 4—5-fid. *Anthers* with two pores. *Berry* globose, 4-celled, many-seeded.—*Nat. Ord.* Vaccinieæ, *De Cand.*—Name;—some say the ὑακινθος, of the Greeks, and

hence synonymous with *Hyacinthus;* but the true etymology of the word is unknown.

7. Œnothéra. *Cal.* superior, tubular, with a deeply 4-cleft *limb;* the segments reflexed, more or less combined. *Pet.* 4. *Caps.* 4-valved, with many naked *seeds.*—*Nat. Ord.* Onagrariæ, *Juss.*—Named from οινος, *wine*, and θηρα, *searching* or *catching*, from the root having caught the perfume of wine.

8. Epilóbium. *Cal.* superior, 4-partite, segments free, deciduous. *Pet.* 4. *Capsule* elongated, 4-sided, 4-celled, 4-valved, many-seeded. *Seeds* with a tuft of hairs at one extremity.—*Nat. Ord.* Onagrariæ, *Juss.*—Named from επι, *upon*, and λοβος, *a pod:* the flower being placed upon the top of the elongated seed-vessel.

** *Flowers incomplete.*

9. Dáphne. *Perianth* single, inferior, resembling a *cor.*, 4-fid. *Berry* with one *seed.*—*Nat. Ord.* Thymeleæ, *Juss.*—Named in allusion to the Nymph *Daphne*, who was changed into a *Laurel;* some of the plants of this Genus having the habit of Laurels.

(*See* Monotropa *in* Cl. X.)

(Digynia. 2 *Styles.*

See Polygonum *in* Ord. Trig. Chrysosplenium *and* Scleranthus *in* Cl. X.)

ORD. II. TRIGYNIA. 3 *Styles.*

10. Polýgonum. *Perianth* single, in 5 deep, coloured, persistent segments, inferior. *Stam.* 5—8. *Styles* 2, 3. *Fruit* a one-seeded, compressed or trigonous *nut.*—*Nat. Ord.* Polygoneæ, *Juss.*—Named from πολυς, *many*, and γονυ, a *knee* or *joint;* from the numerous joints of the stem.

ORD. III. TETRAGYNIA. 4 *Styles.*

11. Páris. *Cal.* of 4 leaves. *Pet.* 4. *Cells* of the *anthers* fixed one on each side the middle of a subulate *filament. Berry* 4-celled; each *cell* with several *seeds* in two rows.—*Nat. Ord.* Smilaceæ, *Br.*—Named, it is said, from *par*, *paris*, (*equal*), on account of the regularity of its leaves and flowers.

12. Adóxa. *Cal.* half-inferior, 3-cleft. *Cor.* superior, 4—5-cleft. *Anther* terminal, 1-celled. *Berry* 4—5-celled. The side flowers have the corolla 5-cleft, the terminal one 4-cleft.—*Nat. Ord.* Saxifrageæ, *Juss.*—Named α, *without*, and δοξα, *glory;* from the humble and insignificant aspect of this little flower.

13. Elátine. *Cal.* 3—4-partite, persistent, inferior. *Pet.* 3—4. *Stam.* 3—4? or 6—8. *Styles* 4 or 3, very short. *Caps.* 3—4-valved, 3—4-celled, many-seeded. *Seeds* cylindrical, fur-

rowed and transversely striated, attached to a central free receptacle.—*Nat. Ord.* Elatineæ, *Camb.*—Name said to be derived from ελατη, *a pine*, to which nothing can be less similar than our present plant.

(*See* Sagina *in* Ct. IV.)

OCTANDRIA—MONOGYNIA.

1. Ácer. *Linn.* Maple.

1. A. *Pseudo-plátanus*, Linn. (*greater Maple* or *Sycamore*); leaves 5-lobed unequally serrated, racemes pendulous subtomentose. *E. Bot. t.* 303. *E. Fl. v. ii. p.* 230.

In hedges, plantations, and about houses, not indigenous. *Fl.* May, June. ♄.—A large *tree*, with spreading *branches* and ample *leaves*. *Flowers* greenish. *Fruit* with two long membranaceous wings, which greatly aid in its dispersion. The *wood* is used for bowls and trenchers and other turnery; and the Highlanders are said to make a wine of its sap. From an allied species, *A. saccharinum*, the Canadians extract a valuable sugar.—"The *cotyledons* vary from 1—4." (*Rev. Prof. Henslow.*)

2. A. *campéstre*, Linn. (*common Maple*); lobes of the leaves mostly 5 inciso-crenate, racemes upright subtomentose. *E. Bot. t.* 304. *E. Fl. v. ii. p.* 230.

Woods and thickets; not common in Scotland, and perhaps neither indigenous there, nor in Ireland. (*Mr. J. T. Mackay.*) *Fl.* May, June. ♄.—A small *tree* with rough *bark*, full of deep fissures. *Leaves* small. *Wood* often beautifully veined, and then much valued.

2. Chlóra. *Linn.* Yellow-wort.

1. C. *perfoliáta*, Linn. (*perfoliate Yellow-wort*); leaves connato-perfoliate ovate glaucous. *E. Bot. t.* 60. *E. Fl. v. ii. p.* 218.

Chalky and hilly pastures, chiefly in the middle and southern parts of England. In Ireland, on gravelly soil about Dublin, frequent; *Mr. J. T. Mackay.* *Fl.* July—Sept. ⊙.—Allied to the *Gentians*. *Plant* very glaucous, with remote *leaves;* panicled above, and bearing many bright yellow *flowers;*—very bitter.

3. Menziésia. *Sm.* Menziesia.

1. M. *cærúlea*, Sm. (*Scottish Menziesia*); leaves scattered numerous linear toothed, flower-stalks terminal aggregate simple, flowers 5-cleft decandrous. *E. Bot. t.* 2469. *E. Fl. v. ii. p.* 222.

Heathy moor near Aviemore in Strathspey, *Mr. Brown* of Perth; and in the western isles of Shiant, *Mr. G. Don* and *Dr. de Ramm*, (*E. Fl.*) *Fl.* June, July. ♄.—A small *shrub; stems* branched, woody and naked below. *Peduncles* 2 inches long, glandular, reddish. *Flowers* large, beautiful, purple-blue. *Cor.* urceolate. This plant is far more common in North America than in Scotland. It scarcely yields in beauty to the following species.

2. M. *polifólia*, Juss. (*Irish Menziesia*); leaves ovate, the margins revolute white and downy beneath, flowers 4-cleft octandrous

in terminal leafy racemes. *E. Fl. v. ii. p.* 223.—*Erica Dábeoci, Linn.—E. Bot t.* 35.

Mountainous heaths in Ireland, *Ray.* Croagh Patrick, Co. Mayo. Abundant in Cunnamara, *Dr. Wade* and *Mr. J. T. Mackay*, who finds it also with pure white fl. *Fl.* June, July. ♄.

This beautiful species, frequently cultivated in gardens, is not, as some have supposed, peculiar to Ireland, as an indigenous plant. It is found in the Western Pyrenées and in Anjou.

4. Eríca. *Linn.* Heath.

1. E. *Tétralix*, Linn. (*Cross-leaved Heath*); anthers with two acute awns at the base, corolla ovate as long as the style, leaves 4 in a whorl ciliated, flowers capitate. *E. Bot. t.* 1014. *E. Fl. v. ii. p.* 226.

Heaths and moory ground, abundant. *Fl.* July, Aug. ♄.—*Flowers* next in size to those of the rare *E. ciliaris*, delicate, rose-coloured, sometimes white, drooping. They have been found, cleft into several divisions and with the stamens turned into petaloid segments, by Mr. *W. C. Trevelyan.*—The *Cross-leaved Heath* is the badge of the *Macdonalds.*

2. E. *cinérea*, Linn. (*fine-leaved Heath*); anthers with 2 serrated appendages at the base, style a little exserted, corolla ovate, stigma capitate, leaves ternate. *E. Bot. t.* 1015. *E. Fl. v. ii. p.* 226.

Heaths, abundant. *Fl.* July, Aug. ♄.—*Flowers* in rather large whorled *racemes*, drooping, reddish-purple. *Leaves* nearly linear, glabrous. This plant is used for various œconomical purposes, and its flowers are sometimes white.—It is the badge of the Clan *Macalister.*

3. E. *mediterránea*, Linn. (*Mediterranean Heath*); anthers without awns and as well as the style exserted, corolla narrow urceolate, bracteas above the middle of the peduncle, calyx coloured, flowers axillary, leaves 4 in a whorl. *Bot. Mag. t.* 471.

Boggy ground, Cunnamara, Ireland, covering a space of at least 2 acres; *J. T. Mackay, Esq.*—In September, 1830, Mr. Mackay was so kind as to communicate to me this important discovery. The plants were not then in flower.

4. E. *vágans*, Linn. (*Cornish Heath*); anthers without awns bifid and as well as the style exserted, corolla campanulate, leaves 3—4 in a whorl, flowers axillary crowded. *E. Bot. t.* 3. *E. Fl. v. ii. p.* 227.—*E. multiflora, Huds.* (not *Linn.*)

On heaths in Cornwall, abundant. (*E. Fl.*) The *Rev. J. S. Tozer* assures me that it is only found at Goonnely and Liskeard, near the Lizard, and is thence called "*Goonnely*" not *Cornish, Heath. Fl.* July, Aug. ♄.—Well distinguished from all our British *Ericæ* by its campanulate, not ovate, *corollas.*

5. E. *ciliáris*, Linn. (*ciliated Heath*); anthers without awns bifid included, corolla ovate inflated, leaves 4 in a whorl ciliato-glandulose, flowers in terminal unilateral racemes. *Lindl. Syn. p.* 174. *Hook. in E. Bot. Suppl. t.* 2618.

Boggy (never on dry) ground, Cornwall. Near Truro; and most abundantly at East Croft, *Rev. J. S. Tozer.* Heath at Carclew near Penryn, frequent, and on a heath in the parish of St. Agnes, on the north coast of Cornwall; *Sir Charles Lemon, Bart. Fl.* June, July. ♄. —Communicated to me in Sept. 1828, by my valued correspondent, the *Rev. J. S. Tozer*, of Truro. It is unquestionably the most interesting and beautiful addition that has been made to our British Flora for many years. The *flowers* are as large as those of *Menziesia cærulea*, and more highly coloured; while the *leaves* are elegantly fringed with hairs, and each hair is tipped with a gland.

5. Callúna. *Salisb.* Ling.

1. C. *vulgáris*, Salisb. (*common Ling*). *Hook. Scot. i. p.* 119. *E. Fl. v. ii. p.* 225.—*Erica vulgaris, Linn.*—*E. Bot. t.* 1013.

Heaths and moors, common: sometimes with white fl. *Fl.* June, Aug. ♄.—A low, much branching, tufted *shrub*. *Leaves* small, opposite, with two small decurrent spurs at the base, more or less pubescent, and even hairy in β. of *Sm.* (the *E. ciliaris*, Huds., not Linn.), closely imbricated in 4 rows. *Flowers* small, reddish, drooping, nearly sessile, ovate. It varies much in the colour of its flowers and degree of pubescence of the leaves; and besides the more common varieties, Mr. Stewart Murray finds in this "land of brown heath," two states which he cultivates in the Glasgow Botanic Garden, where they have retained their differences for years.

Var. 1. Leaves compact crowded and as well as the branchlets pubescent, branches short, flowers deep red.—Aberdeenshire, *Mr. S. Murray.*

Var. 2. Leaves compact and as well as the branchlets pubescent, branches elongated, flowers white.—Arran, *Mr. S. Murray.* It bears *flowers* later than the other varieties.

This plant is much employed for brooms as well as fuel; and it makes an excellent edging to garden-plots, and bears clipping as well as *Box*. The Icelanders say that when the *Ling* shows a profusion of blossoms, a severe winter may be expected.

6. Vaccínium. *Linn.* Whortleberry.

* *Leaves deciduous. Anthers with 2 dorsal awns.*

1. V. *Myrtíllus*, Linn. (*Bilberry* or *Whortleberry*); peduncles 1-flowered, leaves ovate serrate deciduous, stem angular, stamens 8—10. *E. Bot. t.* 456. *E. Fl. v. ii. p.* 219.

Woods and heathy places, chiefly in mountainous or alpine districts, abundant. *Fl.* May. ♄.—A small *shrub*, about 1 foot high. *Flowers* drooping, urceolate, almost waxy, greenish with a red tinge. *Anthers* tubular, each cell opening by a pore at the extremity, and having a horn at the back. *Berries* black, glaucous, very agreeable to the taste, and much eaten in the Highlands of Scotland.

2. V. *uliginósum*, Linn. (*great Bilberry*, or *Bog Whortleberry*); peduncles 1-flowered, leaves obovate entire veined deciduous, stems rounded. *E. Bot. t.* 381. *E. Fl. v. ii. p.* 220.

In mountain-bogs, Cumberland and Westmoreland; more frequent in the Highlands of Scotland, ascending even nearly to the summits of the

mountains. *Fl.* May. ♄.—*Leaves* glaucous, especially beneath. *Cor.* ovate, flesh-coloured, smaller than in the last; *anthers* similar. *Berries* agreeable, but inferior in flavour to those of *V. Myrtillus*.—The leaves are added to *Lycopodium alpinum* by the Icelanders, in order to produce a yellow dye, for colouring woollens.

** *Leaves persistent, evergreen. Anthers hornless at the back.*

3. V. *Vitis Idæa*, Linn. (*red Whortleberry, Cow-berry*); racemes terminal drooping, flowers campanulate, leaves evergreen obovate dotted beneath, their margins slightly revolute nearly entire. *E. Bot. t.* 598. *E. Fl. v. ii. p.* 220.

Dry places on heaths, mountains and in woods, in the north of England, Wales, Scotland, and Ireland. *Fl.* May, June. ♄.—A low, somewhat straggling *shrub*, with *leaves* resembling those of the *Box*. *Flowers* pale flesh-coloured, open at the mouth, and with deeper and more spreading segments than the two preceding *Vaccinia*: hence, as well as in the absence of horns at the back of the anthers and in its evergreen foliage, it seems to connect the following species with the rest of the Genus.—The *red Whortleberry* is the badge of the Clan *Macleod*.—A dwarf variety, very bushy, with leaves much crowded, and only half the size of the common plant, but having its flowers full as large, is found by Mr. Murray on the Campsie and Arran hills.

4. V. *Oxycóccos*, Linn. (*Marsh Whortleberry, Cranberry*); peduncles terminal single-flowered, leaves ovate evergreen glaucous beneath, their margins revolute and entire, cor. 4-partite revolute, stem filiform. *E. Bot. t.* 319. *E. Fl. v. ii. p.* 221.—*Oxycoccos palustris, Rich.—Lindl. Syn. p.* 134.

Peat-bogs, especially among *Sphagnum*, in various parts of England, Scotland, and Ireland. *Fl.* June. ♄.—*Stems* straggling, wiry, 8—10 inches long. *Leaves* small. *Flowers* of a bright rose-colour. *Cor.* deeply divided, the segments singularly revolute; on which account this sp. has been by some Botanists removed from *Vaccinium*. The fruit is highly agreeable, making the best of tarts, far superior to the foreign *V. macrocarpum* which is largely imported to this country. At Longtown, on the borders of Cumberland, the fruit of the *Cranberry* forms no inconsiderable article of trade. It is the badge of the Clan *Grant*.

7. Œnothéra. *Linn.* Evening-primrose.

1. O. *biénnis*, Linn. (*common Evening-primrose*); leaves ovato-lanceolate toothed, stem somewhat hairy, flowers sessile subspicate, stamens about as long as the corolla, capsules nearly cylindrical 4-toothed. *E. Bot. t.* 1534. *E. Fl. v. ii. p.* 211.

Sandy soils near Liverpool, also in Suffolk and Warwickshire. *Fl.* July.—Sept. ♂.—This Genus is altogether American. The present species was introduced to our gardens, is most extensively cultivated and has escaped into waste ground, where, meeting with a favourable soil, it has become apparently indigenous. Plant 2—3 feet high. *Stem* roughish. *Flowers* yellow, fragrant, expanding in the evening.

8. Epilóbium. *Linn.* Willow-herb.

* *Flowers irregular. Stamens bent down.*

1. E. *angustifólium*, Linn. (*Rose-bay Willow-herb*); leaves scattered linear-lanceolate veined glabrous, flowers irregular subspicate, stamens declined. *E. Bot. t.* 1947. *E. Fl. v. ii. p.* 212.

Moist banks and margins of woods; rare in England, frequent in very many parts of Scotland. Near Enniskerry, Ireland, *Mr. J. T. Mackay. Fl.* July. 4.—*Stems* 4—6 feet high. Whole plant very handsome.

** *Flowers regular. Stamens erect. Stigmas* 4-*cleft.*

2. E. *hirsútum*, Linn. (*great hairy Willow-herb*); leaves semi-amplexicaul ovato-lanceolate deeply serrated hairy, stem very much branched hairy, root creeping, stigma 4-cleft. *E. Bot. t.* 838. *E. Fl. v. ii. p.* 213.

Sides of ditches, rivers and lakes, frequent. *Fl.* July. 4.—Almost equal in size to the last. *Root* perennial, creeping. *Flowers* corymbose, large.

3. E. *parviflórum*, Schreb. (*small-flowered hairy Willow-herb*); leaves sessile lanceolate slightly toothed downy on both sides, stem nearly simple very downy, root fibrous, stigma 4-cleft. *E. Bot. t.* 795. *E. Fl. v. ii. p.* 214.

Marshes and banks of lakes and rivers, frequent. *Fl.* July. 4.—The much smaller size of this species in all its parts, being scarcely more than 1—1½ ft. high, besides the above characters, serves to distinguish it from the preceding, with which it has been confounded. *Seedlings* bulbous, growing in *Sphagnum. Rev. G. E. Smith.*

4. E. *montánum*, Linn. (*broad smooth-leaved Willow-herb*); leaves ovate acute shortly petiolate glabrous all toothed, stem rounded pubescent as well as the fruit, stigma 4-cleft. *E. Bot. t.* 777. *E. Fl. v. ii. p.* 214.

Dry shady banks, walls, roofs of cottages, &c. frequent. *Fl.* July. 4.—6 inches to 1 foot high. Much resembling the following; but essentially distinguished by its 4-fid *stigma.* It has, too, more shortly petiolate, deeply toothed *leaves*; and larger *flowers.*

*** *Flowers regular. Stamens erect. Stigma undivided.*

5. E. *róseum*, Schreb. (*pale smooth-leaved Willow-herb*); leaves ovato-lanceolate stalked finely toothed, stem erect somewhat 2-edged, stigma clavate. *E. Bot. t.* 693. *E. Fl. v. ii. p.* 215.

About London, in Essex and Sussex. Forfarshire, *Mr. Drummond. Fl.* July. 4.—Distinguishable from *E. montanum* by its clavate entire *stigma*, and from *E. tetragonum* by its broader petiolate *leaves* and *stem* not distinctly 4-sided.

6. E. *tetragónum*, Linn. (*square-stalked Willow-herb*); leaves lanceolate sessile denticulate, stem with 4 angles nearly glabrous, stigma undivided. *E. Bot. t.* 1948. *E. Fl. v. ii. p.* 515.

Sides of ditches and watery places, common. *Fl.* July. 4.

7. E. *palústre*, Linn. (*narrow-leaved Marsh Willow-herb*); leaves

narrow-lanceolate sessile nearly entire and as well as the rounded erect stem subglabrous, stigma undivided. *E. Bot. t.* 346. *E. Fl. v. ii. p.* 216.

Boggy places and the sides of lakes and ditches. *Fl.* July. ♃.—About a foot high. *Flowers* small.

8. E. *alsinifólium*, Vill. (*Chickweed green-leaved Willow-herb*); leaves lucid ovato-acuminate nearly sessile glabrous lowermost ones entire, the rest toothed, stem rounded, its upper part and germen slightly pubescent, stigma entire. *E. Bot. t.* 2000. *E. Fl. v. ii. p.* 216.

Sides of alpine rivulets. On the Cheviots, *Mr. Winch.*—Aber waterfall, N. Wales, *Mr. W. Wilson.* Frequent on the Scottish, especially the Highland mountains. *Fl.* July. ♃.—This has many of the characters, in its *leaves* and *stem*, of *E. montanum*; but the *stigma* is entire, clubbed, and the *leaves* have a flaccid, subpellucid appearance, so that the eye readily distinguishes the species. The *germen* is pubescent; but in my specimens the down disappears before the fruit is ripe. Wahlenberg considers it a variety of the following; and I must confess that I have gathered, on the mountains of Clova, specimens that seem intermediate. The more usual forms of the plant do indeed appear to be very different. Let it be observed, that in Wales, where *E. alsinifolium* is found, *E. alpinum* is never seen.

9. E. *alpínum*, Linn. (*alpine Willow-herb*); leaves elliptical glabrous on short footstalks nearly entire, stem nearly glabrous and fruit entirely so, stigma undivided. *E. Bot. t.* 2001. *E. Fl. v. ii. p.* 217.

Wet places near springs, and by the sides of rivulets on all the Highland mountains. *Fl.* July. ♃.—2-4 inches high. *Root* creeping. *Stem* with two lines of very obscure pubescence, procumbent at the base. *Flowers* seldom more than 1 or 2 from the summit of the stalk, at first gracefully drooping, bright purple-red. *Fruit* erect, often as long as the plant itself.

9. DÁPHNE. *Linn.* Mezereon and Spurge-Laurel.

1. D. *Mezéreum*, Linn. (*common Mezereon or Spurge-Laurel*); flowers subternate lateral sessile appearing before the deciduous lanceolate leaves, tube of the perianth hairy. *E. Bot. t.* 1381. *E. Fl. v. ii. p.* 228.

Rare, in woods in England; Hampshire, Sussex, Suffolk, Staffordshire, Worcestershire, Berkshire, and Oxfordshire. *Fl.* March. ♄.—The well-known *Mezereon* of the gardens, whose early blossoms and delightful fragrance have attracted general notice. It forms a bushy *shrub*, bearing its numerous purple *flowers* before the *leaves*, and the red *berries* nestled among the foliage. *Flowers* sometimes white.

2. D. *Lauréola*, Linn. (*Spurge-laurel*); racemes axillary of about 5 flowers, leaves lanceolate glabrous evergreen. *E. Bot. t.* 119. *E. Fl. v. ii. p.* 229.

Woods, thickets and hedges throughout England, especially in a clay soil. Rare in Scotland; about Rosslyn and Bothwell. *Fl.* March. ♄.

—*Stem* rather stout, erect, 1—3 feet high, but little branched, naked below, leafy above, and hence bearing some resemblance to a Palm. *Flowers* drooping, each accompanied by an ovate, concave *bractea*. *Perianth* funnel-shaped, pale yellowish-green; *limb* 4-cleft. *Stam.* included, standing in two rows of 4 each; *filaments* very short. *Berry* ovate, bluish-black.

OCTANDRIA—TRIGYNIA.

10. Polýgonum. *Linn.* Persicaria, Bistort, Knot-grass and Buck-wheat.

* *Styles* 3. *Nut triquetrous.*

1. P. *Bistórta*, Linn. (*Bistort or Snakeweed*); stem simple bearing one spike, leaves ovate waved, the radical ones tapering into a footstalk. *E. Bot. t.* 509. *E. Fl. v. ii. p.* 236.

Moist meadows in various parts of England, Scotland, and Ireland. *Fl.* June, ♃.—1—1½ foot high. Upper *leaves* with long sheaths. *Spikes* cylindrical, dense. *Flowers* flesh-coloured, on short foot-stalks, with small *bracteas* at their base. *Stam.* 8. *Styles* 3. *Root* large, tortuose, very astringent.

2. P. *vivíparum*, Linn. (*viviparous alpine Bistort*); stem simple bearing one spike, leaves linear-lanceolate, the lower ones elliptical petiolate, their margins revolute. *E. Bot. t.* 669. *E. Fl. v. ii. p.* 237.

Mountain pastures in the north of England, and abundant on the Highland mountains of Scotland. *Fl.* June. ♃.—4—8 inches high, slender. *Spike* linear; lower part of it generally bearing little viviparous *bulbs* of a fine red colour. *Stam.* 8. *Styles* 3. *Perianth* pale flesh-coloured, almost white.—This species increases much by the bulbs, and little, if at all, by seed, its triquetrous germen proving abortive.

3. P. *aviculáre*, Linn. (*Knot-grass*); flowers nearly solitary axillary, leaves elliptico-lanceolate, stipules much shorter than the leaves, nerves of the stipules distant, stem procumbent herbaceous. —α. fruit included within the perianth striated with raised points. *P. aviculare, Linn. E. Bot. t.* 1252. *E. Fl. v. ii. p.* 238.—β. fruit longer than the perianth quite smooth on the surface. *P. maritimum, Ray, Syn. p.* 147?—*P. aviculare*, ε. *E. Fl. v. ii. p.* 238?

Waste places and way-sides, common.—β. Sea-coast near Dublin, *Dr. Taylor*. Cornish coast? *Ray; F. Boroni.* Isle of Arran, upon the sea-shore; and other places at the mouth of the Clyde. *Fl.* May—Sept. ☉.—β. ♃.—Varying much in size; sometimes quite dwarfish, erect, one-flowered, (*Dr. Paton.*) I feel almost persuaded that the maritime *Polygonum*, here mentioned, will prove a distinct species. It covers a space of some feet with its long, straggling, procumbent *branches*. The *leaves* are an inch long, and the *bracteas* large and scariose. *Flowers* twice the size of α; and the *fruit* greatly larger, protruded and quite even on the surface: in these respects agreeing with the true *P. maritimum;* but that has woody *stems*, larger *stipules*, as long as the leaves, and the *joints* of the *stem* always much shorter than the *leaves*.

4. P. *Fagopýrum*, Linn. (*Buck-wheat*); leaves cordato-sagittate, stem nearly upright without prickles, angles of the fruit even. *E. Bot. t.* 1044. *E. Fl. v. ii. p.* 239.

Dunghills and about cultivated land, but introduced by cultivation, it being an excellent food for poultry. *Fl.* July, Aug. ⊙.—*Stem* nearly erect, waved, 1 foot high, branched. *Flowers* in spreading *panicles*, terminal and lateral, pale reddish.

5. P. *Convólvulus*, Linn. (*climbing Buck-wheat*); leaves cordato-sagittate, stem twining angular, segments of the perianth bluntly keeled. *E. Bot. t.* 941. *E. Fl. v. ii. p.* 239.

Corn-fields, frequent. *Fl.* July, Aug. ⊙.—Very long, climbing. *Spikes* lateral and leafy, of 4, whorled, greenish *flowers*.

** *Styles mostly* 2. *Nuts compressed.*

6. P. *amphíbium*, Linn. (*amphibious Persicaria*); flowers pentandrous, styles forked, spike oblongo-ovate, leaves petiolate cordato-lanceolate rough at the margins. *E. Bot. t.* 436. *E. Fl. v. ii. p.* 232.—*α. aquaticum*, leaves floating broadly lanceolate glabrous, spikes oblong.—*β. terrestre*, nearly erect, leaves narrow-lanceolate rough with short rigid appressed hairs on both sides, spikes ovate.

Margins of ponds, lakes, and ditches, frequent. *Fl.* July, Aug. ♃.—*Stem* 2—3 feet long, scarcely branched when growing in the water. *Leaves* arising from long, tubular *sheaths* or *stipules*; glabrous in *β.*, but hispid in *α*. *Spikes* mostly solitary, terminal, of a bright rose-colour. This is the only perennial species of the *Persicaria* groupe.

7. P. *Persicária*, Linn. (*spotted Persicaria*); flowers hexandrous, styles forked, leaves lanceolate (often spotted), spikes oblong erect their peduncles smooth, stipules fringed. *E. Bot. t.* 756. *E. Fl. v. ii. p.* 233.

Moist ground and waste places, frequent. *Fl.* Aug. ⊙.—*Stems* erect, branched, 1—2 feet high. *Spikes* terminal and lateral, dense, greenish, the tips of the *flowers* rose-coloured. *Leaves* nearly sessile, glabrous: but there are said to be varieties with hoary leaves.

8. P. *lapathifólium*, Linn. (*pale-flowered Persicaria*); flowers hexandrous with 2 distinct styles, leaves ovato-lanceolate shortly petiolate, spikes oblong erect their peduncles rough, stipules not fringed. *E. Bot. t.* 1382. *E. Fl. v. ii. p.* 234.

Fields and dunghills, frequent. *Fl.* Aug. ⊙.—1—1½ ft. high. A very variable species; but the above characters, so ably pointed out by Mr. Curtis, are constant. Sometimes the *stem* is spotted, and sometimes the *leaf* is hoary. The *flowers* are either pale green, almost white, or of a reddish tint. *Spikes* dense, terminal and lateral.

9. P. *Hydrópiper*, Linn. (*biting Persicaria*); flowers hexandrous, styles forked, leaves lanceolate waved and spotless, spikes lax filiform drooping, stem erect. *E. Bot. t.* 989. *E. Fl. v. ii. p.* 235.

Frequent by the sides of lakes and ditches. *Fl.* Aug. Sept. ⊙.—1—3

feet high, erect. Remarkable for its slender, long, more or less drooping *spikes* of distant, reddish *flowers;* they are lateral and terminal.

10. P. *mínus*, Huds. (*small creeping Persicaria*); flowers hexandrous, style undivided, leaves linear-lanceolate plane very shortly petiolate, spikes slender erect, stem rooting at the base. *E. Bot. t.* 1043. *E. Fl. v. ii. p.* 235.

On gravelly, watery commons; about London, Worcestershire, Cheshire and Lancashire. Moist fields round Forfar, *G. Don.* Near Cork, Ireland, *Mr. Drummond. Fl.* Sept. ⊙.—Nearly allied to *P. Hydropiper*, but much smaller, procumbent below, with upright *spikes*, narrower *leaves*, and undivided *stigmas.*

OCTANDRIA—TETRAGYNIA.

11. Páris. *Linn.* Herb Paris.

1. P. *quadrifólia*, Linn. (*common Herb Paris*); leaves ovate 4 in a whorl. *E. Bot. t.* 7. *E. Fl. v. ii. p.* 241.

Moist and wet shady woods, in many parts of England and Scotland. Killarney, Ireland, ("*Smith's Kerry.*") *Fl.* May, June. 4.—*Stem* 1 foot high, with 4, rarely 5, whorled, large, ovate, acute *leaves* at its summit, the rest leafless. *Flower* single, terminal, on a footstalk about 2 inches long. *Cal.* of 4, linear-lanceolate, green *leaflets; petals* similar to these, but narrower and more yellow. *Roots* purgative. *Berry* esteemed poisonous; but it has been employed in curing inflammation in the eyes.

12. Adóxa. *Linn.* Moschatell.

1. A. *moschatéllina*, Linn. (*tuberous Moschatell*). *E. Bot. t.* 463. *E. Fl. v. ii. p.* 242.

Woods, hedgebanks and shady places; not unfrequent at a great elevation and even upon the tops of Highland mountains. *Fl.* April, May. 4.—*Root* composed of tooth-like scales, creeping. *Stem* about a span high. *Leaves* 2—3, radical, on very long *footstalks*, triternate, lobed and cut, 2 cauline ones small and simply ternate. *Peduncle* single, terminal, with a head of 4, verticillate *flowers*, and a fifth terminal one. *Stamens* united in pairs, or they may be considered as 4—5 forked *stamens*, each ramification terminated by the single cell of an *anther*, and all springing from a fleshy ring that surrounds the upper part of the *germen.* The *flowers* have an evident musky smell in the evening, or early in the morning, while the dew is on them.

13. Elátine. *Linn.* Water-wort.

1. E. *hexándra*, De Cand. (*small hexandrous Water-wort*); leaves opposite spathulate, flowers alternate pedicellate erect hexandrous tripetalous, capsule turbinate concave at the summit 3-celled, seeds about 12 in each cell straight ascending. *De Cand. Pl. Gall. Rar. p.* 14. *t.* 43. *f.* 1. *Reich. Ic. Bot. t.* 413.—*E. tripetala, E. Fl. v. ii. p.* 243.—*E. Hydropiper, E. Bot. t.* 955. (not *Linn.*)

Margins of ponds and ditches, rare: Bomere pool, near Condover, Shropshire, *Rev. E. Williams;* near Binfield, Berks, *Mr. T. F. Forster.*

Near Crawley, Sussex, *Mr. Borrer*. *Fl.* July, Aug. ⊙.—A minute, procumbent, much branching plant, with axillary solitary *flowers*. *Petals* rose-coloured. *Seeds* most beautifully ribbed and transversely striated.

2. E. *Hydrópiper*, Linn. (*small octandrous Water-wort*); leaves opposite spathulate, flowers alternate sessile erect octandrous tetrapetalous, calyx shorter than the petals, segments ligulate, capsule roundish depressed 4-celled, seeds 16 in each cell pendulous much curved. *Linn. Sp. Pl. p.* 527. *Hook. in E. Bot. Suppl. ined.* (not *Smith.*)

Discovered in 1830, by *Mr. J. E. Bowman* of Wrexham, at the E. end of Llyn Coron, Anglesea, growing with *E. hex.* *Fl.* Aug. ⊙.

CLASS IX. ENNEANDRIA. 9 *Stamens.*

I. HEXAGYNIA. 6 *Styles.*

Bútomus. *Perianth* single, coloured, 6-partite, inferior. *Capsules* 6, many-seeded. *Seeds* fixed to the inner lining of the capsule.—*Nat. Ord.* Butomeæ, *Rich.*—Named from βους, *an ox*, and τεμνω, *to cut*; because the sharp leaves injure the mouths of cattle that browze upon them.

ENNEANDRIA—HEXAGYNIA.

1. Bútomus. *Linn.* Flowering-rush.

1. B. *umbellátus*, Linn. (*common Flowering-rush*); leaves linear-subulate trigonous, spatha of 3 leaves. *E. Bot. t.* 651. *E. Fl. v. ii. p.* 245.

Ditches and ponds, frequent in England and Ireland. Duddingston Loch, and Loch of Clunie, Scotland, where I believe it has been planted. *Fl.* June, July. 4.—*Root* white, tuberous. *Leaves* all radical, 2—3 feet long, linear, acuminate, acutely trigonous, more or less spirally twisted at the extremity. *Scape* longer than the *leaves*, rounded. *Umbel* of many rose-coloured *flowers*, on *pedicels* about 4 inches long, with scariose sheathing *bracteas* at the base; and these having a triphyllous membranous *spatha* or involucre beneath them. *Germens* ovate, compressed. *Style* about as long as the germen, with a recurved, cleft *stigma*. *Seeds* parietal, or fixed to the inner surface of the pericarp, extremely small.—A highly ornamental plant.

CLASS X. DECANDRIA. 10 *Stamens.*

ORD. I. MONOGYNIA. 1 *Style.*

1. Monótropa. *Perianth* single, of 4—5 leaves, cucullate at the base. *Anthers* 1-celled, 2-lipped. *Caps.* superior, 4—5-

celled. *Seeds* numerous, invested with a long *arillus.*—*Nat. Ord.* MONOTROPEÆ, *Nutt.*—Named from μονος, *one*, and τρεπω, *to turn;* the flowers all pointing one way.

2. PÝROLA. *Cal.* 5-cleft. *Petals* 5, often connected at the base. *Anthers* opening with 2 pores. *Caps.* superior, 5-celled. *Seeds* numerous, invested with a long *arillus.*—*Nat. Ord.* MONOTROPEÆ, *Nutt.*—Named from *Pyrus*, a *pear;* from a fancied resemblance in its leaves to those of a *Pear-tree.*

3. LÉDUM. *Cal.* 5-toothed. *Petals* 5. *Anthers* with 2 pores. *Stigma* 5-lobed. *Caps.* 5-celled, 5-valved, dissepiments formed by the inflexed margins of the valves, opening from the base and between the dissepiments. *Seeds* arillate, fixed to a longitudinal parietal receptacle.—*Nat. Ord.* ERICEÆ, *Juss.*—Named from the similarity of its foliage to that of the *Cistus Ledum.*

4. ANDRÓMEDA. *Cal.* deeply 5-cleft. *Cor.* of one *petal*, ovate or campanulate. *Anthers* with awns. *Caps.* superior, 4—5-celled, the dissepiments from the middle of the valves.—*Nat. Ord.* ERICEÆ, *Juss.*—Named in allusion to the fable of *Andromeda*, who was chained to a rock and exposed to the attack of a sea-monster: so does this beautiful tribe of plants grow in dreary and northern wastes, feigned to be the abode of præternatural beings.

5. ÁRBUTUS. *Cal.* deeply 5-cleft. *Cor.* of one *petal*, ovate. *Berry* superior, 5-celled, many-seeded.—*Nat. Ord.* ERICEÆ, *Juss.*—Named, according to Théis, from *ar*, *rough* or *austere*, and *boise*, a *bush*, in Celtic.—The *Arbutus* is the badge of the Highland Clan *Ross.*

(*See* Menziesia *and* Vaccinium *in* CL. VIII.)

ORD. II. DIGYNIA. 2 *Styles.*

6. SCLERÁNTHUS. *Cal.* of 1 piece, 5-cleft. *Cor.* 0. *Stam.* inserted upon the *cal.*, 5 frequently abortive or wanting. *Capsule* 1-seeded, covered by the calyx.—*Nat. Ord.* SCLERANTHEÆ, *Link.* (Allied to CHENOPODEÆ, *Br.*—PARONYCHIÆ, *De Cand.*)—Named from σκληρος, *hard*, and ανθος, a *flower;* from the indurated nature of the floral covering.

7. CHRYSOSPLÉNIUM. *Cal.* 4—5-cleft, somewhat coloured, superior. *Cor.* 0. *Capsule* with 2 beaks, many-seeded.—*Nat. Ord.* SAXIFRAGEÆ, *Juss.*—Named from χρυσος, *gold*, and σπλην, the *spleen;* a disease for which this plant was supposed to be a cure.

8. SAXÍFRAGA. *Cal.* superior, or inferior, or $\frac{1}{2}$ inferior, in 5 segments. *Cor.* of 5 petals. *Caps.* with 2 beaks, 2-celled, many-seeded, opening between the beaks. *Seeds* upon a receptacle attached to the dissepiment.—*Nat. Ord.* SAXIFRAGEÆ, *Juss.*—Named from *saxum*, a *stone*, and *frango*, to *break;* in allusion to

the supposed medicinal virtues of this plant: or, perhaps, to its roots penetrating the crevices of rocks and stones, among which the different species generally grow.

9. Sáponária. *Cal.* monophyllous, tubular, 5-toothed, without *bracteas* at the base. *Pet.* 6, clawed. *Capsule* oblong, 1-celled. —*Nat. Ord.* Caryophylleæ, *Juss.*—Named from *sapo, soap.* The plant yields a mucilaginous juice, which has been employed in lieu of that useful article.

10. Diánthus. *Cal.* monophyllous, tubular, 5-toothed, with about 4, imbricated, opposite *scales* or *bracteas* at the base. *Pet.* 5, clawed. *Caps.* cylindrical, 1-celled.—*Nat. Ord.* Caryophylleæ, *Juss.*—Name derived from Ζευς, Διος, *Jupiter*, and ανθος, a *flower:* dedicated as it were to Deity itself; to express the high value that was set upon this charming genus of plants.

ORD. III. TRIGYNIA. 3 *Styles.*

11. Siléne. *Cal.* monophyllous, tubular, often ventricose, 5-toothed. *Pet.* 5, clawed, mostly crowned at the mouth, and the *limb* generally notched or bifid. *Caps.* 3-celled, 6-toothed, many-seeded.—*Nat. Ord.* Caryophylleæ, *Juss.*—Name supposed to arise from σιαλον, *saliva*, in allusion to the viscid moisture on the stalks of many species; hence too, the English name *Catchfly.*

12. Stellária. *Cal.* of 5 leaves. *Pet.* 5, deeply cloven. *Caps.* opening with 6 teeth, many-seeded.—*Nat. Ord.* Caryophylleæ, *Juss.*—Named from *stella*, a *star;* because the corolla is spread in a star-shaped manner.

13. Arenária. *Cal.* of 5 leaves. *Pet.* 5, undivided. *Capsule* 1-celled, many-seeded.—*Nat. Ord.* Caryophylleæ, *Juss.*—Named from *arena, sand;* the greater number of species growing in sandy soils.

14. Cherléria. *Cal.* of 5 leaves, united at the base. *Pet.* 5, extremely minute, notched. *Stam.* with glands at the base. *Caps.* 1-celled, opening with 3 valves, many-seeded.—*Nat. Ord.* Caryophylleæ, *Juss.*—Named in honour of *John Henry Cherler*, a friend and coadjutor of John Bauhin in the Prodromus of his *Hist. General. Pl.* in 1619.

(*See* Polygonum *in* Cl. VIII.)

ORD. IV. PENTAGYNIA. 5 *Styles.*

15. Cotylédon. *Cal.* 5-partite. *Cor.* monopetalous, tubular, 5-cleft. *Capsules* 5, each with a *gland* or nectariferous scale at its base.—*Nat. Ord.* Crassulaceæ, *De Cand.*—Named from κοτυλη, a *cup*, to which the leaves of some of the species may bear a distant resemblance.

16. Sédum. *Cal.* in 5 (sometimes 4—8) deep segments, often resembling the leaves. *Petals* 5, patent. *Germens* 5, each with a nectariferous scale at its base.—*Nat. Ord.* Crassulaceæ, *De Cand.*—Named from *sedo*, to sit; from the humble growth of these plants on their native rocks.

17. Oxális. *Cal.* 5-partite. *Pet.* 5, often united by the base of their claws. *Filaments* often combined below, 5 outer ones shorter. *Caps.* angular, 5-celled: *cells* 2-or many-seeded. *Seeds* with an elastic *arillus*.—*Nat. Ord.* Oxalideæ, *De Cand.*—Named from οξυς, *sharp* or *acid*. The leaves of *O. acetosella* produce oxalic acid in the state of binoxalate of Potash. (*Professor Thomson.*)

18. Agrostémma. *Cal.* monophyllous, tubular, coriaceous, with 5 teeth. *Pet.* 5, clawed, their border undivided. *Caps.* opening with 5 teeth, 1-celled.—*Nat. Ord.* Caryophylleæ, *Juss.*—Name; αγρος στεμμα, *Crown of the field*, peculiarly applicable to our species which is a great ornament to corn-fields.

19. Lýchnis. *Cal.* monophyllous, tubular, 5-toothed. *Pet.* 5, clawed, crowned at the mouth, mostly divided at the border.—*Nat. Ord.* Caryophylleæ, *Juss.*—Named from λυχνος, a *lamp;* the thick cottony substance of the leaves of some species, or some similar plant, having been employed as wicks to lamps.

20. Cerástium. *Cal.* of 5 leaves. *Pet.* 5, cloven. *Caps.* bursting at the top with 10 teeth (5 in *C. aquaticum*).—*Nat. Ord.* Caryophylleæ, *Juss.*—Name,—κερας, a *horn*, from the rather long and curved capsules of some species.

21. Spérgula. *Cal.* 5-leaved. *Pet.* 5, undivided. *Caps.* ovate, 5-celled, 5-valved.—*Nat. Ord.* Caryophylleæ, *Juss.*—Named from *spargo*, to *scatter;* from the seeds being so widely dispersed.

(*See* Silene *and* Stellaria, *in* Ord. Trig.—Adoxa *in* Cl. VIII.)

DECANDRIA—MONOGYNIA.

1. Monótropa. *Linn.* Bird's Nest.

1. M. *Hypópitys*, Linn. (*yellow Bird's Nest*); lateral flowers with 8, terminal one with 10 stamens. *E. Bot. t.* 713. *Hook. in Fl. Lond. N. S. t.* 105. *E. Fl. v. ii. p.* 249.

Beech and Fir-woods, where the soil is dry; but not common either in England or Scotland. Counties of Dublin and Louth, Ireland; *Mr. J. T. Mackay. Fl.* June, July. 4.—*Root* fibrous, parasitic? *Stem* stout, erect, 6—9 inches high, simple or slightly branched; instead of *leaves* having numerous ovate scattered *scales*, of the same dingy yellow colour as the stem. *Raceme* terminal, a continuation of the stem, at first drooping, then erect. *Flowers* on short scaly or bracteated *pedicels*, large, of the same colour as the rest of the plant. *Stamens* alternately

smaller. *Germen* 4—5-lobed, ovate. *Stigma* large, peltate. *Seeds* very minute, rarely perfect, enveloped in a reticulated *arillus*.

2. Pýrola. *Linn.* Winter-green.

1. P. *uniflóra*, Linn. (*single-flowered Winter-green*); stem bearing a solitary flower, leaves orbicular. *E. Bot. t.* 146. *E. Fl. v. ii. p.* 258.

Woods in Scotland, rare. Fir-wood near Brodie House, Forres. Woods at Scoune, *Mr. Bishop.* Coul, Ross-shire; *Sir G. S. Mackenzie, Bart.* In the Oak-wood, Knock of Alves, near Elgin; *Mr. Lawson. Fl.* July. 4.—*Stem* scarcely any, bearing a few petiolated and obscurely serrated *leaves;* and a single *peduncle*, with one large, nearly white, very fragrant *flower*. *Style* short, strait. *Stigma* large, with 8 erect rays.

2. P. *secúnda*, Linn. (*serrated Winter-green*); flowers all leaning one way racemed, leaves ovate serrated. *E. Bot. t.* 307. *E. Fl. v. ii. p.* 257.

Rare in England; Yorkshire, *Ray.* Not unfrequent in Fir-woods in Scotland, especially in the Highlands. *Fl.* July. 4.—*Stems* rather straggling, branched. *Peduncles* 4—5 inches high, with several oval scales or *bracteas*. *Flowers* small, greenish-white. *Petals* erect. *Style* much protruded. *Stigma* 5-lobed.

3. P. *rotundifólia*, Linn. (*round-leaved Winter-green*); flowers drooping racemed, leaves obovato-rotundate slightly crenate, style bent down curved upwards at the extremity, much longer than the ascending stamens. *E. Bot. t.* 213. *E. Fl. v. ii. p.* 255.

Moist woods and bushy places, rare. Bradwell and Middleton in Suffolk. Larlingford, Norfolk; *Rev. G. R. Leathes.* Kent; *Rev. G. E. Smith.* Yorkshire, and many places in Scotland are assigned as stations for this plant; but it is so often confounded with the two following species, that I cannot quote them with equal certainty. *Fl.* July—Sept. 4.—The largest of the *Pyrolæ*, with white, spreading *flowers;* well distinguished by the direction and relative length of its *stamens* and *style*. The latter is more than twice as long as the fully-formed *capsule* and is singularly curved. *Stigma* with 5 erect points.

4. P. *média*, Swartz, (*intermediate Winter-green*); leaves ovato-rotundate crenate, stamens erect much shorter than the strait or slightly decurved style, stigma with 5 erect points. *E. Bot. t.* 1945. *E. Fl. v. ii. p.* 256.

Woods, principally in the north; very general in Scotland, often taken for *P. rotund.* Oxfordshire. (*Sm.*) *J. S. Mill, Esq.* County of Antrim, &c. Ireland, *Mr. Templeton. Fl.* July, Aug. 4.—*Style* protruded beyond the *flower*, strait.

5. P. *minor*, Linn. (*lesser Winter-green*); leaves ovato-rotundate crenate, stamens erect as long as the very short strait style which is included within the flower, stigma large with 5 divergent rays. *E. Bot. t.* 158, (not good). *Hook. in Fl. Lond. t.* 154. *E. Fl. v. ii. p.* 257.—*P. rosea*, *E. Bot. t.* 2543.

Woods in the north of England and Scotland; most frequent in the Western Highlands and Hebrides. *Fl.* July. 4.—This is smaller than the last, essentially distinguished from it, and at once characterized by the shortness of its *style* and large radiated *stigma*, quite included within the concave *corolla*.

3. Lédum. *Linn.* Ledum.

1. L. *palústre*, Linn. (*Marsh Ledum*); leaves linear their margins revolute downy beneath, flowers decandrous. *Hook. in Fl. Lond. t.* 210. *Lindl. Syn. p.* 173. *Br. Fl. ed.* 1.

At Achil-head on the north-west coast of Ireland, *Sir Chas. Giesecke. Fl.* July, Aug. ħ.—A small *shrub*; with rigid evergreen *leaves*, clothed while young entirely, and afterwards, on the underside only, with rusty down. *Flowers* corymbose, white, spreading. *Stamens* prominent. *Capsules* pendent, opening from the base upwards into valves which remain attached to the upper extremity, as in *Triglochin*.—In Canada this plant is extensively used by the hunters in lieu of Tea.

4. Andrómeda. *Linn.* Andromeda.

1. A. *polifólia*, Linn. (*Marsh Andromeda*); leaves alternate lanceolate their margins revolute glaucous beneath, flowers in short terminal racemes. *E. Bot. t.* 713. *E. Fl. v. ii. p.* 251.

Peat-bogs, Larlingford, Norfolk, *Rev. G. R. Leathes.* The north of England, Lowlands of Scotland, and in Queen's county and Kerry, Ireland, *Mr. J. T. Mackay. Fl.* June. ħ.—A small evergreen *shrub*, with beautiful oval or urceolate, rose-coloured drooping *flowers*, a good deal concealed among the terminal *leaves*. *Mr. Mackay* mentions a broad-leaved *var.* growing in a bay between Newport and Castle-Connel.

5. Árbutus. *Linn.* Strawberry-tree. Bear-berry.

1. A. *Unédo*, Linn. (*Strawberry-tree*); stem arboreous, leaves elliptic-lanceolate serrated, panicles terminal, berries tubercled. *E. Bot. t.* 2377. *E. Fl. v. ii. p.* 252.

About the Lakes of Killarney, in woods at Mucruss and at Glengariff near Bantry, Ireland. *Fl.* Sept. Oct.—The fruit ripens the following summer. ħ.—This beautiful evergreen is said to be truly wild in the south of Ireland; though some are of opinion that it has been introduced by the Monks of Mucruss Abbey. The young *leaves* are clothed with glandular hair. The *flowers* are large, pale greenish-white. The *fruit* red, ungrateful, (*Smith*, "palatable," *Wilson*); and hence, it is reported, arises the specific name *Unedo*, because those who had eaten one would not care to eat more. It is a tree which, from its frequency and the beauty of its foliage, adds greatly to the charms of the Lake scenery of Killarney, and contributes to give it a preference over the Scottish Lakes.

2. A. *alpína*, Linn. (*black Bear-berry*); stem procumbent, leaves wrinkled serrated, racemes terminal. *E. Bot. t.* 2030. *E. Fl. v. ii. p.* 253.

Dry barren grounds on many of the Highland mountains; Ben Nevis, near the little Lake, and more frequent in the northern mountains and in Sutherland. Hoy hill, Orkney. *Fl.* May. ħ.—A trailing *shrub*, with

obovate, marcescent *leaves* which taper down into a footstalk, and become, in autumn, of a fine red colour. There are a few hairs on the leaf-stalks, and ciliated *bracteas* at the base of the flower-stalks. *Corollas* urceolate, very pale rose-coloured, almost white. *Berry* black.

3. A. *Uva Úrsi*, Linn. (*red Bear-berry*); stems procumbent, leaves obovate entire evergreen, racemes terminal. *E. Bot. t.* 714. *E. Fl. v. ii. p.* 253.

North of England and Ireland; especially abundant in the Highlands and Western Isles of Scotland, growing in dry heathy and rocky places. *Fl.* May. ♄.—*Stems* very long and trailing; *leaves* obovate, stiff, rigid, glabrous, their margins revolute. *Flowers* in small crowded *racemes*, terminal, of a beautiful rose-colour. *Berry* small, red, austere, mealy; but yielding excellent food for the Moor-fowl.

DECANDRIA—DIGYNIA.

6. Scleránthus. *Linn.* Knawel.

1. S. *ánnuus*, Linn. (*annual Knawel*); calyx of the fruit with erecto-patent rather acute segments, stems spreading, root annual. *E. Bot. t.* 351. *E. Fl. v. ii. p.* 282.

Corn-fields, frequent. *Fl.* July. ♃.—*Stems* many, much branched in a dichotomous manner, slender, subpubescent, straggling. *Leaves* linear-subulate, keeled, opposite and combined at the base by a membranous fringed margin. *Flowers* green, inconspicuous, in axillary, leafy clusters. *Cal.* urceolate, ribbed, with 5 ovato-lanceolate teeth, in my specimens white and membranous at the edge as in the following, spreading when in flower, almost erect when in fruit, as represented in *E. Bot. t.* 351, left-hand figure. The accurate Mr. Wilson finds Smith's character taken from the calyx in *S. perennis*, applicable to the *S. annuus*.

2. S. *perénnis*, Linn. (*perennial Knawel*); calyx of the fruit with obtuse closed segments edged with a broad white membrane, stems procumbent, root perennial. *E. Bot. t.* 352. *E. Fl. v. ii. p.* 283.—*S. polycarpos*, *Lightf. Sc. p.* 1143?

Open dry sandy fields, in Norfolk and Suffolk. Eskdale? (*Lightf.*); and near Forfar, *G. Don*. *Fl.* Aug.—Oct. ♃.

7. Chrysosplénium. *Linn.* Golden-Saxifrage.

1. C. *alternifólium*, Linn. (*alternate-leaved Golden-Saxifrage*); leaves alternate, lower ones subreniform upon very long footstalks. *E. Bot. t.* 54. *E. Fl. v. ii. p.* 260.

Boggy places among rocks and springs; Cheshire, rare, *Mr. W. Wilson*. Norfolk: more frequent in Scotland. Rosslyn Woods, Bilston burn, and St. Bernard's well, Edinburgh: Castlemilk glen, and Beetle's burn, vale of Clyde. Near Belfast, Ireland, *Mr. Templeton*. *Fl.* March, Apr. ♃. —4—5 inches high, branched near the summit. *Leaves* petiolate, crenate. *Flowers* in small *umbels*, deep yellow, mostly with 8 *stamens*.

2. C. *oppositifólium*, (*common Golden-Saxifrage*); leaves opposite cordato-rotundate. *E. Bot. t.* 490. *E. Fl. v. ii. p.* 260.

Sides of rivulets in shady places, common. Abundant near the sources of rivulets in very alpine situations, in the Highlands. *Fl.* May—

July. 4.—Generally more branched at the base than the last, of a paler colour in all its parts. *Stamens* usually 8.

8. Saxífraga. *Linn.* Saxifrage.

From a few, comparatively speaking, well defined individuals, 14 in number, given in *Flora Britannica*, the number of British species of *Saxifrage* is now increased to 24; and many of them, as in the Willows and Roses and Brambles, are marked by characters so obscure, or so liable to vary, that in the *hypnoides* family especially, we will venture to say no two Botanists are agreed as to what is and what is not a *species*. After a careful revision of the British ones, I am still of opinion that the view I have taken of that groupe, as stated in *Flora Scotica*, is not far from the truth. In describing, however, those of England and Ireland, as well as Scotland, it behoves me to speak with great caution; since there are many of them that I have not seen in a living state; and it is a painful and an invidious task, to reduce the number of species established by Botanists of unquestionable authority, and who have had equal advantages with, or greater than myself, in studying the genus. At my request, Mr. Wm. Wilson has paid particular attention to the Welsh species, both upon their native mountains, and as cultivated in his garden; and it is gratifying to me to find, in general, how entirely his opinion coincides with mine. His observations I shall here introduce, at least such as I consider essential to the subject, and I am much mistaken if they will not contribute greatly to a more correct knowledge of this difficult genus. Mr. D. Don has well arranged all the species, both Foreign and British, that were known to him, in a valuable Memoir in the *Linn. Trans. v. xiii. p.* 341, and his arrangement is here adopted, with Sir J. E. Smith's slight alterations.

* *Cal. reflexed, inferior. Leaves undivided. Peduncles panicled, erect, much taller than the stems.*[1]

1. S. *Géum*, Linn. (*kidney-shaped Saxifrage*); leaves rotundato-reniform acutely crenate more or less hairy, footstalks linear channelled, scape panicled, capsules superior. *E. Fl. p.* 261. *D. Don, Tr. of Linn. Soc. v. xiii. p.* 249.—*α.* leaves hairy on both sides, their under surface beautifully reticulated with purple, *Mackay.* —*β.* leaves glabrous on both sides, more sharply toothed, *Mackay.* S. *Geum, E. Bot. t.* 1561, (*leaves smaller than usual*).—*Robertsonia dentata, Haworth in App. Syn. Pl. Succ.*—*γ.* leaves light green glabrous and shining sharply toothed, *Mackay. Robertsonia polita, Haworth, l. c.*—*δ.* leaves orbicular dark green glabrous on both sides, footstalks short, *Mackay. S. elegans, Mackay MSS.*— Flowers spotted with red.—*ε.* leaves hairy on both sides smaller than in any of the preceding, flowers cream-coloured spotless, scape slender, *Mackay. S. gracilis, Mackay MSS.*

[1] For our knowledge of the individuals and varieties of this little and very distinct groupe, which is almost exclusively of Irish origin, we are indebted to J. T. Mackay, Esq., who has given their characters and very particular stations in his useful *Catalogue of Plants found in Ireland*, (Dublin, 1825,) from which I have profited.

Mountains in the south of Ireland.—*α.* Sheltered spot below Turk waterfall, Killarney, and only there.—*β.* The most common *var.* near Dingle, Mangerton, near Killarney and mountains of Cork.—*γ.* Conner cliff, near Dingle.—*δ.* Summits of Turk mountain, Killarney.—*ε.* Conner hill, near Dingle.—All found by *Mr. J. T. Mackay. Fl.* June. 4.—This species has the margin of the teeth cartilaginous, but less so than the two following.

2. S. *hirsúta*, Linn. (*hairy oval-leaved Saxifrage*); leaves more or less cordate at the base slightly hairy, footstalks linear, scape panicled, capsule superior. *E. Bot. t.* 2322. *D. Don, in Tr. of Linn. Soc. v. xiii. p.* 251. *E. Fl. v. ii. p.* 262.

Gap of Dunloe, near Killarney, *Mr. J. T. Mackay. Fl.* June. 4.—Readily distinguished, Mr. Mackay observes, from *S. Geum*, by its oval leaves, which are of a deep green colour. But my friend, the Rev. W. T. Bree, who has cultivated and studied the *Saxifrages* very assiduously, says that it is certainly a hybrid between the preceding and the following. Mr. Don notices a roundish-cordate-leaved variety, which I should think can hardly be any thing but the *S. Geum.*

3. S. *umbrósa*, Linn. (*London-pride Saxifrage* or *None-so-pretty*); leaves obovate with sharp cartilaginous teeth tapering gradually into a broad footstalk, panicle small, capsule superior. *E. Bot. t.* 663. *D. Don, in Tr. of Linn. Soc. v. xiii. p.* 252. *E. Fl. v. ii. p.* 263.—*β.* leaves roundish with sharp tooth-like serratures, fruitstalks elongated, *Mackay. S. punctata, Haworth.* (not *Sm.*)—*γ.* leaves oblongo-ovate glabrous light green with deep acute serratures, *Mackay. Robertsonia serrata, Haworth.*

Plentiful on mountains on the south of Ireland, as at Glengariff and Conner cliffs, near Dingle, *Mr. J. T. Mackay.*—*β.* Summit of Magillycuddy's reeks. Mountains of Cunnamara; of Sligo, (*Ray.*) On Croagh Patrick in Mayo, (*A. B. Lambert, Esq.*) and Muckish, in Donegal, *Mr. Templeton,* on both which lofty mountains I have gathered the plant abundantly.—*γ.* Gap of Dunloe, near Killarney, *Mr. J. T. Mackay.*—This species is found too in woods at Wetherby and in Craven, Yorkshire, and about Edinburgh and Glasgow, but in situations so different from its Irish habitat, that I can hardly consider the stations wild. *Fl.* June. 4.—This is well known in our gardens, even amid the smoke of London; hence, and in consequence of its beautifully spotted flower, it is called *London-pride;* in Ireland, *St. Patrick's Cabbage.*

4. S. *stelláris*, Linn. (*starry Saxifrage*); leaves oblongo-cuneiform angulato-serrate scarcely petiolate, panicle subcorymbose of few flowers, capsule superior. *E. Bot. t.* 167. *D. Don, in Tr. of Linn. Soc. v. xiii. p.* 356. *E. Fl. v. ii. p.* 265.—*β.* leaves quite entire.

Sides of rivulets and wet rocks, in the mountainous parts of the north of England, Scotland and Ireland.—*β.* Rocks on Ben Nevis, *Mr. S. Murray. Fl.* June—Aug. 4.—*Stems* short, growing frequently in tufts. *Leaves* with coarse teeth; in *β.* quite entire, and thence having so different an aspect, that, at first sight, Mr. Murray as well as myself considered it to be quite a distinct species. It has now, too, been cultivated for

several years, and offsets have been taken from it, all of which preserve their original character. It was found only in one spot; and, there, a single tuft was growing by itself. As in *α*, the whole plant is slightly hairy. *Scape* 2—5 or 6 inches high, with a minute *bractea* at each ramification of its small *panicle*. *Flowers* white; with 2 yellow spots at the base of each somewhat clawed *petal*.

** *Calyx spreading, half-superior. Leaves all radical, undivided. Scape upright; with a panicle or head of flowers.*

5. S. *nivális*, Linn. (*clustered alpine Saxifrage*); leaves obovate subpetiolate acutely crenate subcoriaceous, scape terminated by a dense cluster of flowers, capsule half-inferior. *E. Bot. t.* 440. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 387. *E. Fl. v. ii. p.* 263.

Mountains of Wales, and, not unfrequent in the rocky clefts of the Highland mountains of Scotland; particularly abundant on the Breadalbane range. *Fl.* Aug. ♃.—Allied as this species appears at first sight to *S. stellaris*, there are many and important distinctions. It is a thicker and stouter-looking plant, though nearly of the same height. *Leaves* subcoriaceous, glabrous above. *Scape* glanduloso-pubescent, sometimes a little branched. Among specimens from Snowdon, where, however, the species is rare, Mr. W. Wilson finds an individual with a long branch from above the middle, and another with the branch from near the base. *Flowers* clustered. *Cal. teeth* almost erect, never reflexed.

*** *Calyx partly or entirely inferior. Stem leafy. Leaves undivided.*

6. S. *oppósitifolia*, Linn. (*purple Mountain Saxifrage*); leaves ovate opposite imbricated ciliated, flowers solitary terminal. *E. Bot. t.* 9. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 400. *E. Fl. v. ii. p.* 266.

Moist alpine rocks. Ingleborough, *Dr. Richardson.* Snowdon, *Mr. Llwyd.* Welsh mountains, *Mr. W. Wilson.* Frequent on the Highland mountains of Scotland. *Fl.* Apr. May. ♃.—Grows in straggling tufts, with a habit quite different from that of any other British *Saxifrage*. *Flowers* large in proportion to the size of the plant, purple, very beautiful. The *leaves* are retuse, ciliated, and have a pore at the extremity. *Capsule* half-inferior.

7. S. *Hírculus*, Linn. (*yellow Marsh Saxifrage*); stem erect, leaves alternate lanceolate, those from the root attenuated into a petiole, calyx inferior at length reflexed obtuse downy at the margin as well the upper part of the stem. *E. Bot. t.* 1009. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 372. *E. Fl. v. ii. p.* 267.

Wet moors, very rare. Knutsford, Cheshire; *Dr. Kingstone.* Cotherstone fell, Yorkshire; *Mr. J. Binks.* Queen's County, Ireland; *Mr. J. T. Mackay. Fl.* Aug. ♃.—This, again, like the preceding, is very different from any other British species, though approaching in some particulars to the following. *Flowers* yellow, large, solitary. *Petals* almost elliptical. It is singular that this plant, which I have seen abundantly in Iceland, and which was found so plentifully by our *arctic* Amer-

ican voyagers and travellers, is found no further north in Britain than Yorkshire.

8. S. *aizoides*, Linn. (*yellow Mountain Saxifrage*); lower leaves of the stem numerous crowded, the rest scattered linear-lanceolate fleshy more or less ciliated, stem branched ascending, calyx spreading, capsule half-superior. *E. Bot. t.* 39. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 375. *E. Fl. v. ii. p.* 268.

Abundant near alpine rills and in springy places, in mountainous countries; north of England, Wales, Scotland, and Ireland. *Fl.* July—Sept. ♃.—5—7 inches high, branching below. *Flowers* panicled, subcorymbose, bright yellow; each *petal* beautifully spotted with orange.

**** *Calyx spreading. Leaves more or less lobed. Flowering-stems erect, more or less leafy.*

9. S. *granuláta*, Linn. (*white Meadow Saxifrage*); radical leaves reniform on long footstalks obtusely lobed, those of the upper part of the stem nearly sessile acutely lobed, stem panicled, root granulated. *E. Bot. t.* 500. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 362. *E. Fl. v. ii. p.* 269.

Hedge-banks, meadows and pastures, especially on a gravelly soil; yet very local; common in Surry, *Mr. J. S. Mill.* In many parts of the south of Scotland; but scarcely known in the Highlands. Between Beldoyle and Portmarnock, Ireland; *Mr. J. T. Mackay. Fl.* May, June. ♃.—*Root* consisting of numerous, small, clustered *tubers*. *Stem* 8—12 inches high, glanduloso-pilose. *Leaves* mostly radical, glabrous; *petioles* glandular. *Flowers* large, white. *Germen* and *capsule* half-inferior.

10. S. *cérnua*, Linn. (*drooping bulbous Saxifrage*); radical leaves reniform on long footstalks palmato-lobate, superior ones nearly sessile subtrifid, stem simple bulbiferous with one terminal flower. *E. Bot. t.* 664. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 364. *E. Fl. v. ii. p.* 276.

Dry rocks (not about rills) on the highest of the Breadalbane mountains; summit of Ben Lawers, discovered by *Mr. Townson;* and on Craigalleach. *Fl.* June—Aug. ♃.—3—4 or 5 inches high, slender. *Leaves* glabrous, and the *stem*, which droops at the extremity, nearly so. In the axils of the small upper *leaves*, instead of flowers, are clusters of minute reddish *bulbs*. Frequently there is no *flower*, and I have never seen more than one upon a stem, which is terminal, large in proportion to the size of the plant, and white; *petals* retuse. In the *E. Bot.* figure, the *root-leaves* are much less deeply-lobed than in my specimens.

11. S. *rivuláris*, Linn. (*alpine Brook Saxifrage*); leaves 3—5-lobed palmated glabrous on long stalks, stem slender branched pubescent, branches few-flowered, bracteas oblong sessile 3-lobed and entire, capsule half-inferior. *E. Bot. t.* 2275. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 367. *E. Fl. v. ii. p.* 271.

Moist alpine rocks in Scotland; rare. Near the summit of Ben Nevis, (*Mr. Townson,*) but very sparingly, as it is likewise on Ben

Lawers. Plentiful on Loch-na-gar, in Forfarshire, *Mr. Drummond;* Loch Rannoch, *Mr. Sommerville. Fl.* Aug. Sept. 4.

12. S. *tridactylites*, Linn. (*rue-leaved Saxifrage*); glandular and viscid, leaves cuneate 3—5-fid, the uppermost or bracteas undivided, stem panicled, pedicels single-flowered, capsule inferior. *E. Bot. t.* 501. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 441. *E. Fl. v. ii. p.* 271.

Common on walls and dry barren ground, in England and the Lowlands of Scotland; rare however in the west of Scotland, and especially in the Highlands. Island of Lismore, *Rev. C. Smith. Fl.* May, June. ⊙. —2—4 inches high. Whole plant covered with viscid *hairs*. *Petals* small, pure white, scarcely longer than the *segments* of the *calyx*. *Capsule* almost wholly inferior.

13. S. *muscoides*, Wulf. (*mossy alpine Saxifrage*); radical leaves crowded linear obtuse entire and trifid, stem nearly naked few-flowered, petals oblong obtuse (buff-coloured), a little longer than the superior calyx.—α. leaves entire and trifid. *S. muscoides, D. Don in Tr. of Linn. Soc. v. xiii. p.* 437.—α. *Sternb. Saxifr. p.* 39. *t.* 11. *f.* 2. *E. Fl. v. ii. p.* 272.—γ. *Sternb. Saxifr. p.* 40. *t.* 11. *b. f. i.*—*S. cæspitosa, Huds. not Linn.*—*S. moschata, With.* —β. leaves mostly entire or retuse. *S. muscoides, Hook. Scot. i. p.* 130.—*S. moschata, E. Bot. t.* 2314.—γ. *Sternb. Saxifr. p.* 41. *t.* 11. *b. f.* 2.—*S. pygmæa, Haw. Misc. Nat.* 168. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 439. *F. Fl. v. ii. p.* 273.

α. Mountains above Ambleside, Westmoreland. *Huds.* (*D. Don.*)—β. Highlands of Scotland (?) *Mr. J. Donn. Fl.* May. 4.—The English *Bot. S. moschata*, I referred to the entire-leaved state of *S. muscoides* of *Wulff.* in my *Fl. Scot.* Now, the state, with frequently 3 lobes to the leaves, is introduced as English upon the authority of Mr. Hudson. British specimens of it I have never seen, but Mr. Don refers to *Sternberg's t.* 11. *f.* 2, and *t.* 11. *b. f. i.* and *f.* 2, for the two plants. These figures appear to me evidently to belong to the same species; and I possess all the states in specimens which I have gathered abundantly in Switzerland and Savoy.

14. S. *cæspitósa*, Linn. (*tufted alpine Saxifrage*); "radical leaves crowded 3—5-cleft obtuse veiny fringed, lowermost undivided, flowers 5 or more, germen half-inferior hairy, calyx smoother obtuse, petals rounded triple-ribbed." (*Sm.*)—α. smaller. *E. Fl. v. ii. p.* 273.—*S. cæspitosa, Linn.*—*E. Bot. t.* 794. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 428.—*S. grœnlandica, Gunn. Norv. v. ii. p.* 80. *t.* 7. *f.* 1.—β. larger. *E. Fl. v. ii. p.* 274.—*S. decipiens, Ehrh.*—*Sternb. Saxifr. p.* 55. *t.* 23.—*S. palmata, E. Bot. t.* 455.

Mountains of Wales and Ireland. Aberdeenshire, *Dr. Graham.*—α. Rocks of Twll dû, and Cwm Idwel, N. Wales; *Mr. Griffith.* Brandon mountain, Kerry, Ireland; *Mr. J. T. Mackay.*—β. Cwm Idwel, *Mr. Griffith.* On the Galty mountains, Tipperary; *Mr. J. T*

Mackay. Fl. May, June. 2f.—I had considered the two plants above alluded to as the same with the following species of our Scottish Alps, only having shorter and less stoloniferous *stems*. Sir J. E. Smith, however, describes them as peculiar to the Welsh and Irish Mountains, and Mr. W. Wilson too is of opinion that this species is distinct. The *var. α.* is, he says, very scarce upon Twll dû, and he has not been able to find more than 2 roots of it. "But," he says, "a root of a *Saxifrage*, from Snowdon, which had hitherto been considered as *S. palmata*, I find, on examination, to answer very exactly to *S. cæspitosa*, β. of *E. Fl.*, and agreeing also with what is there said of the cultivated plant from Brandon mountain. The Snowdon plant has acquired, by culture, rather long, procumbent shoots, the *leaves* of which are all 3-lobed, unless just below the flowering-stems; the *lobes* obtuse, short and often very broad, not spathulate, copiously fringed with jointed hairs of various lengths, the short ones often glandular. It is true that, in this case, the lobes of the leaves are not rounded at the extremity, as in wild specimens from Twll dû; and though they are always much more obtuse than in the cultivated varieties of *S. hypnoides*, hereafter enumerated, they are sometimes terminated by a point; but it will be seen that the point is not cartilaginous, as in *S. hypnoides*, but only a terminal, jointed, glandular hair, in every respect similar to those found in the margins of the lobes. The ribs of the leaf also appear rather different; the broad common base of the lobes having 5 ribs, instead of 3, uniting much lower down the footstalk than is common to *S. hypnoides;* thus the middle lobe is 3-ribbed at the base, and the lateral lobes 2-ribbed, and sometimes 3-ribbed; all of them furnished with lateral veins above. The *radical leaves* are usually 5-lobed. The *petals*, notwithstanding their size, are obovate and 3-ribbed; never furnished with lateral veins, as in many of the wild and most of the cultivated states of *S. hypnoides*. The *germen* in this, as well as in the wild plant from Twll dû, is remarkable for its broad, rounded base, which, with the very broad and obtuse segments of the calyx and leaves, fully establishes, as I think, the relationship between the cultivated Snowdon plant and the wild one from Twll dû, and will keep both essentially distinct from all the varieties, wild or cultivated, of *S. hypnoides*, though assuredly very *nearly connected*."

In regard to *S. hirta*, (Sm.) Mr. Wilson remarks that he has never found in Wales a *Saxifrage* sufficiently hairy to justify the name; or, in that respect, at all approaching to *S. cæspitosa*. When it acquires rounded petals and the ribs are furnished with lateral veins, it becomes *S. platypetala*. When the segments of the leaves are narrow and widely spreading, it then passes for *S. leptophylla*. Indeed, after a careful examination of a great number of specimens from Wales, and of plants in a cultivated state, Mr. Wilson has come to the conclusion, that *S. hirta*, *platypetala*, *leptophylla*, and *hypnoides*, are varieties of one species; and moreover," he adds, *so intimately connected by intermediate states, that it is hardly practicable to define their limits, even as varieties.*" In this, as may be supposed, from what I have stated in *Flora Scotica*, I do most cordially concur; and I here follow Mr. Wilson's arrangement and characters drawn up from the living plants.

15. S. *hypnoides*, Linn. (*mossy Saxifrage*); radical leaves 3-or 5-cleft, those of the procumbent shoot undivided or 3-cleft all bris-

tle-pointed and more or less fringed, segments of the calyx ovate pointed, petals roundish obovate or oblong 3-ribbed with or without lateral veins." *Wils. MSS.*

α. leaves of the trailing shoots undivided, sometimes with axillary buds. *S. hypnoides, Linn.—E. Bot. t.* 454. *Hook. Scot. i. p.* 131. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 147. *E. Fl. v. ii. p.* 277.—*S. condensata, D. Don in Tr. of Linn. Soc. v. xiii. p.* 448.

Frequent in mountainous situations, among rocks; especially in limestone countries. *Fl.* May—July. 4.—*Leaves* sometimes with axillary buds. *Stem* bearing from 3—7, usually erect, sometimes drooping *flowers. Petals* elliptical, entire, 3-ribbed; sometimes as broad as those of *S. platypetala*, and like them furnished with lateral veins; occasionally very narrow, notched or pointed. The procumbent *shoots* in this *variety* are sometimes very short and sometimes destitute of axillary buds, which appear to be neither a constant character nor confined to this variety. A root exactly answering to *S. hypnoides, E. Fl.*, from Dove Dale in Derbyshire, is not altered by culture; except that the axillary buds on its shoots are not so numerous as in wild specimens. *Wils.*

β. leaves of the procumbent shoots either undivided or 3-cleft, petals usually broad with or without lateral veins. *Wils. MSS.—Hook. Scot. i. p.* 131.—*S. platypetala, E. Bot. t.* 2276. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 422.—*S. hirta, Don.—E. Bot. p.* 2291. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 421. *E. Fl. v. ii. p.* 275.

Mountains of Wales Scotland and Ireland; frequently with the former. *Fl.* May—July. 4.—This is closely connected with the preceding and following *vars.*, and perhaps should not be kept separate from *γ.*—*Flowers*, in some instances, drooping, generally erect. *Calyx-segments* sometimes narrow. *Petals* variable, as in the last.

γ. leaves of the procumbent shoots nearly 3-cleft, the lobes usually broad, the middle one 3-ribbed at the base. *Wils. MSS.*—Again to this, *Mr. Wilson* refers certain states of *S. platypetala* and *S. hirta, E. Fl.;* and further remarks, "the common base of the lobes is usually very broad and tapering downwards into the more or less elongated footstalk. *Flowering-stem* 3—12 inches high, the *flowers*, in some instances, few and crowded, upon short branches near the top; sometimes there are 7 or 9 flowers; the branches axillary and often placed at distant intervals along the stem. *Cal. segments* variable in length and breadth. *Petals* variable, as in the foregoing; occasionally very long and narrow, with a notched extremity. The procumbent shoots are frequently furnished with axillary buds. By cultivation, the leaves, in autumn, become very large and 5-lobed, the lobes spreading and in some degree spathulate. A root, exactly similar to *S. platypetala, E. Fl.*, brought from Wales, was found not materially changed by culture while in a flowering state; but in the following autumn the leaves of the shoots were almost universally five-parted, and their lobes broadly spathulate."

δ. leaves of the procumbent shoot deeply 3-cleft, lobes linear-lanceolate and widely spreading. *Wils. MSS.—S. leptophylla, Pers.—D. Don in Tr. of Linn. Soc. v. xiii. p.* 450. *E. Fl. v.* 2. *p.* 279.

Welsh mountains, *Mr. MacNab.*—In this the *calyx-segments* vary much in breadth and length. *Petals* obovate or elliptical, 3-ribbed, sel-

dom furnished with lateral veins. Intermediate states occur, in which the stem-leaves have narrow, wide-spreading lobes, while those of the procumbent shoots are undivided, as in *var.* α.

ε. flowering-stem terminating the procumbent shoots. *Wils. MSS.*

Welsh mountains, *Mr. W. Wilson.*—"This can scarcely be termed a *var.*; yet it is not readily altered by culture, though perhaps its habit may not be strictly permanent. Except in having its *flowering-stem* at the end of the shoots produced in spring, there is nothing to distinguish it. A root from Snowdon was not altered in the garden at the time of blossoming in the succeeding year; and in the following autumn the leaves were found very large, having from five to nine spreading segments, or doubly 3-parted. In the flowering state they corresponded with the *var.* δ.—On the other hand, wild specimens from Twll dû, with terminal flower-stalks, rather belong to the *var.* γ.

16. S. *affínis*, Don, (*involute alpine Saxifrage*); "radical leaves 5-cleft, those of the trailing shoots mostly 3-cleft, lobes linear pointed, segments of the calyx awl-shaped channelled pointed recurved, petals oblong inflexed at the edges. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 418. *E. Fl. v. ii. p.* 275.

On the top of Brandon mountain, county of Kerry; *Mr. J. T. Mackay. Fl.* May, June.—4.

17. S. *incurvifólia*, Don, (*curve-leaved Saxifrage*); "somewhat glabrous, radical leaves 5-cleft, those of the trailing shoots 3-cleft, segments lanceolate obtuse incurved, calycine segments ovate acute, petals roundish emarginate." *D. Don in Tr. of Linn. Soc. v. xiii. p.* 423. *E. Fl. v. ii. p.* 276.—*S. incurva, Mackay MSS.*

Alpine rocks, Ireland; *Mr. J. T. Mackay.*—4.

18. S. *denudáta*, Don, (*smooth Grampian Saxifrage*); "somewhat glabrous, radical leaves 5-cleft, those of the trailing shoots tripartite, segments linear-subulate acute, calycine segments lanceolate mucronulate, petals obovate emarginate." *D. Don in Tr. of Linn. Soc. v. xiii. p.* 424.—*S. cæspitosa*, δ. *Hook. Scot. i. p.* 131.

Mountains of Angus-shire, *G. Don.*—4.—*Sir J. E. Smith* seems to consider this a *var.* of the preceding; and *Mr. W. Wilson* observes that the reflexed points of the calyx mentioned in the description are very general in varieties of *S. hypnoides*, and that the lanceolate shape of its segments is probably accidental.

19. S. *elongélla*, Sm. (*long-stalked Saxifrage*); "radical leaves 3-or 5-cleft, those of the upright short shoots undivided or 3-cleft all bristle-pointed slightly fringed, primary flower-stalks very long simple and naked, calyx pointed, petals obovate." *E. Bot. t.* 2277. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 449. *E. Fl. v. ii. p.* 279. —*S. cæspitosa*, γ. *Hook. Scot. i. p.* 131.

Moist rocks, near Lintrathen, Angus-shire, *Mr. G. Don. Fl.* June. 4. —Mr. Wilson has seen this plant, and thinks that it can hardly be any thing but a *var.* of *hypnoides.*

20. S. *lætevírens*, Don, (*bright-green alpine Saxifrage*); trailing

shoots procumbent elongated, leaves 5-or 3-parted, segments linear acute, calycine segments lanceolate mucronate, petals spathulate emarginate. *D. Don in Tr. of Linn. Soc. v. xiii. p.* 451. *E. Fl. v. ii. p.* 280.—S. *cæspitosa*, β. *Hook. Scot. i. p.* 131.

Mountains of Angus-shire, Aberdeenshire and north of Loch Lomond, *G. & D. Don.* ♃.—"The recurved points of the segments of the leaves may possibly distinguish this as a species; but at present I think its claims very doubtful." *W. Wilson.*

21. S. *pedatífida*, Ehrh. (*pedatifid-leaved Saxifrage*); lower leaves and those of the rather short sterile shoots upon very long footstalks divided into 3 deep linear-lanceolate acute spreading segments, the lateral ones bifid, panicle cymose, calyx superior as long as the germen. *E. Bot. t.* 2278. *Hook. Scot. i. p.* 132, (*excl. syn. var.* β.) *D. Don in Tr. of Linn. Soc. v. xiii. p.* 414. *E. Fl. v. ii. p.* 280.

Rocks near the head of Clova, Angus-shire, *G. Don. Fl.* May. ♃.—A species very distinct from any British one; nor does it appear to be noticed in Sternberg's valuable work, though coming near his *S. ladanifera* and *S. pentadactylis*.—Whole plant rigid. *Stems* reddish, glabrous. *Leaves* slightly pubescent and viscid. *Panicle* much branched, cymose and subfastigiate. *Flowers* rather small. *Petals* linear-obovate, thrice as long as the *calyx-teeth*. *Germen* inferior, oblongo-ovate. *Teeth* of the *calyx* longer than in any of this division.—*S. geranioides*, *Linn.* differs from the present species in its broadly wedge-shaped divisions of the *leaves*, which are of a much thinner texture. The *panicle*, however, the *flowers*, *calyx* and *germen* are precisely of the same structure. I should have thought it identical with *S. ladanifera* of La Peyrouse, (which indeed Mr. D. Don makes a *var.* of it), but that *that* species is described as being covered with little points, whence an odoriferous gum exudes. *S. pentadactylis* has its leaves extremely narrow, indeed, and obtuse. Another species, very closely allied to our plant, is the *S. ceratophylla* of *Hort. Kew.*, and *Sims* in *Bot. Mag. t.* 1651, of which I possess specimens through the liberality of Mr. Aiton. It is distinguished by its still more rigid habit; by the divisions of the lobes being bent back like a sickle; and by having the calyx covered with a resinous, not a clammy varnish; it is a native of Spain,—as *geranoides*, *ladanifera* and *pentadactylis* are of the Pyrenées.

9. Saponária. *Linn.* Soapwort.

1. S. *officinális*, Linn. (*common Soapwort*); leaves ovato-lanceolate, calyces cylindrical glabrous. *E. Bot. t.* 1060. *E. Fl. v. ii. p.* 284.

Road-sides, margins of woods, and hedge-banks, especially near cottages. *Fl.* July, Aug. ♃.—1—1½ foot high, with a rather stout, cylindrical *stem*. *Leaves* ribbed, opposite and connate. *Panicle* of numerous large, rose-coloured *flowers*. *Limb* of the *corolla* obcordate.—This plant makes a lather with water. Sir J. E. Smith mentions a curious *var.*, found near Liverpool and in Northamptonshire, having a monopetalous *corolla*.

10. Diánthus. *Linn.* Pink.

* *Flowers clustered.*

1. D. *Arméria*, Linn. (*Deptford Pink*); flowers clustered fascicled, scales of the calyx lanceolate downy as long as the tube. *E. Bot. t.* 317. *E. Fl. v. ii. p.* 286.

Pastures and hedges; not uncommon in England and Scotland. In fields at Carse, Angus-shire, *G. Don.* Leetown in the Carse of Gowrie, *Mr. J. MacNab. Fl.* July, Aug. ⊙.—1—1½ foot high, branched upwards. *Leaves* linear, opposite and connate, slightly pubescent; upper ones acute. *Limb* of the *petals* rose-coloured, with white (not red, as mentioned in *E. Bot.*) dots, crenate at the margin. *Flowers* scentless.

2. D. *prólifer*, Linn. (*proliferous Pink*); flowers clustered capitate, scales of the calyx ovate blunt membranous longer than the tube, leaves rough at the edge. *E. Bot. t.* 956. *E. Fl. v. ii. p.* 286.

Gravelly pastures, in England, rare: Selsey island, Sussex; near Hampton-court; near Norwich; and at Hanby Castle, Worcestershire. *Fl.* July. ⊙.—Readily distinguished by its small, deep-coloured *flowers*, of which only one in a head expands at a time, and by the large, dry, brown and membranaceous *scales* which envelop the *calyces* of several flowers. *Limb* of the *petals* obcordate, notched.

** *Flower solitary; one or more on the same stem.*

3. D. *Caryophýllus*, Linn. (*Clove Pink, Carnation*, or *Clove Gillyflower*); stem branched, flowers mostly solitary, scales of the calyx 4 very short ovate submucronate, petals broad crenated, leaves linear-subulate grooved glaucous. *E. Bot. t.* 214. *E. Fl. p.* 287.

On ruined walls, as at Norwich; old arch of Westonhanger, *Mr. W. Hutchison;* and on the castles of Deal, Sandown, Rochester, &c. From the latter station, the *Rev. Prof. Henslow* sent me (1829) excellent specimens. *Fl.* July. 4.—Few persons, on seeing this plant as it grows on old walls, would suppose it was the origin of one of the "fairest flowers o' the season,"

"The curious choice Clove *July-flower*,"

or *Carnation* of our gardens, with its endless diversity of colour and form; yet such it is always considered to be. It varies, with the *limb* often bearded, and rarely, with a beautiful deep purple bar at the base of the limb; the *pet.* doubly cut and jagged; *stam.* often exserted. A hairy *var.* is also found in Kent. *Rev. G. E. Smith.*

4. D. *deltoídes*, Linn. (*Maiden Pink*); flowers solitary, scales of the calyx about 2 ovato-acuminate short, leaves bluntish somewhat downy, petals crenate glabrous. *E. Bot. t.* 61. *E. Fl. v. ii. p.* 288.—*β.* scales of the calyx mostly 4, petals nearly white. *D. glaucus, Linn.*

Borders of fields, banks and hedges, on a gravelly or sandy soil, in England and Scotland, extending as far north as Ross-shire; *Mr. G. Anderson.* About Edinburgh, &c. where, in the King's Park, grows the *var. β. Fl.* July, Aug. 4.—A small plant, much branched even from its very base. *Petals* very beautiful, rose-coloured, spotted with white, with a white eye enclosed in a deep purple ring.

5. D. *cæsius*, Sm. (*Mountain Pink*); stems mostly single-flowered, scales of the calyx short roundish, leaves scabrous at the margin, petals unequally crenate hairy. *E. Bot. t.* 62. *E. Fl. v. ii. p.* 288.

On limestone rocks at Cheddar, Somersetshire. *Fl.* June, July. ♃. —This exceedingly rare plant has very glaucous *foliage*; and, comparatively, large, fragrant *flowers*, of a delicate rose-colour.

DECANDRIA—TRIGYNIA.

11. Siléne. *Linn.* Catchfly.

* *Stems tufted, short. Peduncles single-flowered.*

1. S. *acaúlis*, Linn. (*Moss Campion*); cæspitose, leaves linear ciliated at the base, peduncles solitary single-flowered, petals crowned slightly notched. *E. Bot. t.* 1081. *E. Fl. v. ii. p.* 299.

Rocky places on Snowdon. Devonshire, (*Dill.*) Abundant on all the Scottish mountains. *Fl.* June, July. ♃.—*Stems* short, 2—3 inches high, much branched and tufted. *Leaves* patent. *Flowers* beautiful purple; and apparently diœcious.—One of the greatest ornaments of our Alps; not unfrequently found with white *flowers*.

** *Stems elongated. Flowers solitary or panicled. Calyx inflated, bladdery.*

2. S. *infláta*, Sm. (*Bladder Campion*); flowers numerous panicled, petals deeply cloven with narrow segments scarcely crowned, calyx inflated reticulated, stem erect, leaves ovato-lanceolate. *Hook. Scot. i. p.* 134. *E. Fl. v. ii. p.* 292.—*Cucubalus Behen*, *E. Bot. t.* 164.—β. calyx, stem and leaves downy.

Pastures and road-sides, common.—β. near Cromer, Norfolk; *Mr. D. Turner*. Banks of the Clyde, *Mr. Hopkirk*. *Fl.* June—Aug. ♃.—Whole plant glaucous, variable in the size and shape of its *leaves*, and in the more or less numerous *flowers*. *Petals* pure white. The downy variety maintains its characters after many years' cultivation in the Glasgow Botanic Garden.

3. S. *marítima*, With. (*Sea Campion or Catchfly*); panicles few-flowered, petals with a shallow cleft and broad segments crowned, calyx inflated reticulated, stems spreading, leaves ovato-lanceolate or spathulate. *E. Bot. t.* 957. *E. Fl. v. ii. p.* 293.—*S. inflata*, β. *Hook. Scot. i. p.* 135.

Frequent upon the sea-shore in sandy and stony places, as well as by alpine rills; Mendip hills, *Mr. Christy*. *Fl.* June—Aug. ♃.—This, although it has smaller *stems* and *leaves* than the last, has larger *flowers*; yet I will not say I have done right in again raising it to the rank of a species. Mr. W. Wilson finds a *var.* in Caernarvonshire, with a *panicle* of 7 *flowers*. In this and the preceding, the *styles* are variable in number.

*** *Stems elongated. Flowers in racemes and whorled.*

4. S. *Otítes*, Sm. (*Spanish Catchfly*); stems erect nearly simple

with few leaves, flowers in whorls diœcious, petals linear entire, leaves spathulate. *E. Fl. v. ii. p.* 298.—*Cucubalus Otites, E. Bot. t.* 85.

Sandy fields, chiefly in Norfolk, Suffolk, and Cambridgeshire. *Fl.* July, Aug. ♃.—Remarkable for its small, unassuming, diœcious *flowers*, with their linear, yellowish, entire *petals*.

**** *Stems elongated, branched. Flowers in leafy racemes, alternate.*

5. S. *ánglica*, Linn. (*English Catchfly*); hairy and viscid, petals (small) crowned slightly bifid, calyces with setaceous teeth ovate in fruit and sometimes reflexed. *E. Bot. t.* 1178. *E. Fl. v. ii. p.* 291.

Sandy and gravelly fields; in Surry, Cambridgeshire, Hertfordshire, and Norfolk; South Port, Lancashire, and North Wales; *Mr. W. Wilson.* Cornwall, *Rev. J. S. Tozer.* Between Dundee and St. Andrews; near Perth, *Mr. Mackay.* (*Sm.*) *Fl.* June, July. ⊙.—More or less viscid. *Leaves* lanceolate, the lower ones spathulate. *Flowers* solitary from the axils of the upper leaves. *Calyx* at first cylindrical, scarcely shorter than the *petals*, erect; at length the *lower ones*, when in fruit, have their pedicels often singularly reflected. *Petals* mostly white, sometimes with a faint tinge of red in the middle, in which case the whole plant much resembles the following species.

6. S. *quinquevúlnera*, Linn. (*variegated Catchfly*); pubescent, limb of the petals roundish entire, flowers secund, calyces with setaceous teeth and always erect very hairy. *E. Bot. t.* 86. *E. Fl. v. ii. p.* 292.

Sandy corn-fields, near Wrotham, Kent; *Hudson.* Duppa's Hill, by Croydon; *Mr. Borrer.* *Fl.* June, July. ⊙.—A common annual in our gardens, which derives its Latin specific name from the 5 deep red spots on its *petals* resembling marks of blood, but which become more or less faint in cultivation.

***** *Stem panicled, leafy. Calyx not bladdery.*

7. S. *nútans*, Linn. (*Nottingham Catchfly*); flowers panicled secund cernuous, branches opposite, petals deeply cloven their segments linear crowned, leaves (of the stem) lanceolate pubescent. *E. Bot. t.* 465. *E. Fl. v. ii. p.* 296.—β. leaves broader. *S. paradoxa*, Sm. (not *Linn.*)

Limestone rocks, and chalky cliffs in England. About Nottingham. Ormeshead, Caernarvonshire, *Mr. W. Wilson.* Knaresborough, Yorkshire; Dovedale, Derbyshire. North Queensferry and near Arbroath, Scotland.—β. on Dover cliffs, *Ray.*—1—1½ ft. high. *Root-leaves* spathulate, acute. *Calyx* tubular, clavate. *Petals* rather large, white.

8. S. *cónica*, Linn. (*striated Corn Catchfly*); panicle forked, petals bifid crowned, leaves linear downy, calyx in fruit conical with numerous furrows. *E. Bot. t.* 922. *E. Fl. v. ii. p.* 294.

At New Romney and Sandown Castle, Kent; near Bury, *Mrs. M. A. Blake.* *Fl.* July. ⊙.—*Petals* purple, small. *Calyx* of the flower almost

tubular, of the fruit so broad and swollen at its base as to be nearly conical. It is moreover finely striated.

9. S. *noctiflóra*, Linn. (*night-flowering Catchfly*); panicle forked, petals bifid, calyx with long teeth oblong in fruit with 10 connected ribs, leaves lanceolate lower ones spathulate. *E. Bot. t.* 291. *E. Fl. v. ii. p.* 295.

Corn-fields in a sandy or gravelly soil, in several counties of England. Coast of Angus-shire, Scotland; *G. Don.* Near Inveresk, *Mr. Coldstream. Fl.* July. ⊙.—1 foot or more high. *Leaves* much like the last, pubescent. Upper part of the *stem* many times dichotomous, each branchlet terminated with a single flower, and a solitary flower in the axil of the fork. *Flowers* rather large, sweet-scented, pale reddish, almost white. *Peduncles* viscid.

****** *Stems elongated. Flowers corymbose. Calyx clavate.*

10. S. *Arméria*, Linn. (*common or Lobel's Catchfly*); panicles forked corymbose with crowded flowers, petals notched and crowned with awl-shaped scales, calyx clavate and as well as the leaves glabrous, leaves ovato-lanceolate, stem viscid. *E. Bot. t.* 1398. *E. Fl. v. ii. p.* 296.

Banks of the Dee, half a mile from Chester. *Fl.* July, Aug. ⊙.—"A doubtful native." Extremely common in gardens. *Flowers* purple. *Calyx* singularly clavate. The *germen* and *capsule* are elevated upon a stalk; hence the lower part of the calyx is contracted, while the upper part is swollen by the enlargement of the capsule.

12. Stellária. *Linn.* Stitchwort.

1. S. *némorum*, Linn. (*Wood Stitchwort*); leaves petiolate cordate, upper ones ovate sessile, panicle dichotomous. *E. Bot. t.* 92. *E. Fl. v. ii. p.* 300.

In moist woods, principally in the north of England and Lowlands of Scotland. *Fl.* May, June. ♃.—1—1½ foot high. *Stems* weak, pubescent above. *Leaves* very large, glabrous, but rough with extremely minute, elevated dots, sometimes ciliated at the margin. *Calyx-leaves* white at the edges. *Petals* narrow, deeply bifid, pure white.

2. S. *média*, With. (*common Chickweed or Stitchwort*); leaves ovate, stems procumbent with an alternate line of hairs on one side, petals 2-partite, stamens 5—10. *E. Bot. t.* 537. *E. Fl. v. ii. p.* 301.—*Alsine media, Linn.*

Road-sides and waste places, abundant. *Fl* almost the whole year. ⊙.—*Stem* weak, with alternate lines of hairs between each pair of leaves, by which the species is admirably distinguished. *Leaves*, except the uppermost, glabrous; on footstalks, which are fringed with hairs. *Flowers* small, white, on solitary, axillary and terminal stalks.—It is a good pot-herb, and small birds are very fond of the seeds.

3. S. *holóstea*, Linn. (*greater Stitchwort*); stem nearly erect, leaves lanceolate much acuminated finely serrulated, petals inversely

heart-shaped bifid twice as long as the nerveless calyx. *E. Bot. t.* 211. *E. Fl. v. ii. p.* 301.

Woods and hedges, frequent. *Fl.* May. 4.—*Plant* 1—1½ foot high, rather rigid and brittle, somewhat glaucous. *Flowers* large and with much broader *petals* than the two following, pure white. *Panicle* of few flowers, leafy.

4. S. *graminea*, Linn. (*lesser Stitchwort*); stem nearly erect, leaves lanceolate acute entire, panicle much branched, petals very deeply cleft, segments linear scarcely longer than the 3-nerved leaves of the calyx. *E. Bot. t.* 803. *E. Fl. v. ii. p.* 302.

Dry pastures, fields and heaths, common. *Fl.* May. 4.—1 foot high, more slender than the last, and readily distinguishable by its much smaller *flowers*, large and branching *panicle*, 3-nerved *calyx*, and entire *leaves*, which are, moreover, by no means so much acuminated.

5. S. *glaúca*, With. (*glaucous Marsh Stitchwort*); stem nearly erect, leaves linear-lanceolate entire glaucous, flowers upon long solitary axillary footstalks, petals very deeply cleft their segments much longer than the 3-nerved calyx. *E. Bot. t.* 825. *E. Fl. v. ii. p.* 303.

Wet, marshy places, margins of lakes, &c. *Fl.* June, July. 4.—Equally slender with the last, 1 foot high. *Flowers* next in size to those of *S. holostea*. Readily known from that and *S. graminea* by its narrower, glaucous *leaves*, solitary, axillary *flowers*, and the narrow *calyx-leaves*, which, like the last, are 3-nerved.

6. S. *uliginósa*, Murr. (*Bog Stitchwort*); leaves ovato-lanceolate entire with a callous tip, flowers in dichotomous panicles, petals bipartite shorter than the leaflets of the calyx which are combined at the base. *E. Bot. t.* 1074. *E. Fl. v. ii. p.* 303.—*Larbræa, St. Hil. De Cand. Lindl.*—*S. graminea*, β. *Linn.*

In ditches and rivulets, frequent. *Fl.* June. ⊙.—This species, besides having the *calyx-leaves* combined at the base, has truly perigynous *stamens* and *petals*. St. Hilaire, who makes of it his Genus *Larbræa* (in honour of the *Abbé de Larbre*,) seems to think it more allied to his Order *Paronychiæ* than to the *Caryophylleæ*. Its general habit, however, is surely that of a *Stellaria*, from all the other species of which it is distinguished by the comparatively minute *petals*.

7. S. *cerastoídes*, Linn. (*alpine Stitchwort*); stems decumbent with an alternate hairy line, leaves oblongo-spathulate, peduncles 2 or 3 mostly terminal downy as is the calyx which is about half the length of the bifid corolla. *Hook. Scot. i. p.* 136.—α. leaves hairy. *S. cerastoides, Linn.*—*Cerastium nivale, Don MSS.*—*Cerastium trigynum, Vill. Delph. iii. p.* 615. *t.* 46.—β. leaves glabrous. *S. cerastoides, Wulf. in Jacq. Coll. v. i. p.* 254. *t.* 19. *E. Bot. t.* 911. *E. Fl. v. ii. p.* 305.

Breadalbane mountains of Scotland, and mountains to the north of that great range. *Fl.* July, Aug. 4.—4—6 inches long. Lower part of the *stem* bare of leaves and much branched. *Leaves* subsecund and

subfalcate, as observed by Wahlenberg: their points callous. *Flowers* large, pure white. Sir J. E. Smith observes that the *styles* are sometimes 4 and 5; and the *capsules*, on my specimens, have some 6 and some 10 teeth; so that this plant has as great a claim to rank with the *Cerastia* as with the *Stellariæ*.

8. S. *scapígera*, Willd. (*many-stalked Stitchwort*); stem shorter than the flowerstalks, leaves linear-lanceolate crowded pubescenti-scabrous at the margin, calyx 3-nerved as long as the petals. *E. Bot. t.* 1269 (leaves too broad). *E. Fl. v. ii. p.* 304.

Hills to the north of Dunkeld and about Loch Nevis, *G. Don. Fl.* June. ♃.—I possess only cultivated specimens of this remarkable plant, which was first described by Willdenow. He attributes to it single-flowered *peduncles;* but in my plants these peduncles, of which many arise from the extremity of the very short *stems*, are mostly branched in the middle, where they have 2, small, ovate, acute, membranaceous *bracteas*.

13. Arenária. *Linn.* Sandwort.

* *Stipules none.*

1. A. *peploídes*, Linn. (*Sea-side Sandwort*); glabrous, leaves ovate acute fleshy, calyx obtuse ribless. *E. Bot. t.* 189. *E. Fl. v. ii. p.* 306.—*Adenarium, Rafin.—De Cand. Prod. v. iii. p.* 366 (*in note.*)

On sandy sea-shores, frequent. *Fl.* July. ♃.—*Root* long and creeping, slender. *Stems* decumbent at the base; *branches* erect, leafy upwards. *Leaves* large, decussate, connate, fleshy, shining, a little recurved. *Flowers* solitary or 2—3 together, in the axils of the upper leaves, nearly sessile, closing in the shade. *Petals* white, small, scarcely longer than the *calyx*, distant, broadly ovate, shortly clawed: surrounding the *germen* are 10 *glands*, alternating with the *stamens*. *Capsule* large, roundish, 3—5-valved, with comparatively, few, large, and black *seeds*.—The habit of this is very different from the rest of the Genus, and it is said that the flowers are diœcious. It is certain that very extensive patches of the plant have abortive flowers.

2. A. *trinérvis*, Linn. (*three-nerved Sandwort*); leaves ovate acute petiolate 3-(rarely 5-) nerved ciliated, flowers solitary calyces rough on the keel with 3 obscure ribs. *E. Bot. t.* 1483. *E. Fl. v. ii. p.* 307.

Shady woods and moist places. *Fl.* May. ⊙.—*Stems* 1 foot high much branched, pubescent. Upper *leaves* sessile. *Flowerstalks* an inch or more long, from the forkings of the extremities of the stem; in *fruit* spreading, the upper part deflexed. *Petals* oblongo-obovate, white, scarcely longer than the acute *segments* of the *calyx*.

3. A. *serpýllifolia*, Linn. (*thyme-leaved Sandwort*); leaves ovate acute subscabrous sessile, calyx hairy its outer leaves 5-ribbed. *E. Bot. t.* 923. *E. Fl. v. ii. p.* 307.

Walls and dry waste places, frequent. *Fl.* June. ⊙.—2—6 inches in length, erect or procumbent, much branched, pubescent. *Leaves* small, rather rigid. *Flowers* white, on short stalks, from the forkings of the

upper part of the stem or the axils of the leaves. *Petals* as long as the *calyx*.—Mr. W. Wilson finds a *var.* at Bangor, with 5 stamens, and the petals only $\frac{1}{4}$ as long as the calyx, which has prominent ribs.

4. A. *ciliáta*, Linn. (*fringed Sandwort*); leaves spathulate roughish ciliated at the base, stems much branched procumbent, flowers terminal solitary, calyx-leaves half as long as the corolla lanceolate acute with many ribs. *E. Bot. t.* 1745. *E. Fl. v. ii. p.* 310.

Mountains in Ireland, rare. Limestone cliffs, near Ben Bulben, a high mountain in Sligo; *Mr. J. T. Mackay*. *Fl.* Aug. Sept. ♃.

5. A. *vérna*, Linn. (*vernal Sandwort*); stems numerous panicled above, leaves subulate acute when dry 3-nerved, petals obovate and as well as the capsule about as long as the lanceolate acuminated 3-nerved calyx. *E. Bot. t.* 512. *E. Fl. v. ii. p.* 309.

Rocky and mountainous pastures, in the north of England and Wales; abundant on Arthur's Seat and in other places about Edinburgh; Mael Dun Crosk, Breadalbane; not found at all in the West of Scotland. *Fl.* May, June. ♃.—*Stems* 3—4 inches high, slightly hairy, as are the *calyces* and *peduncles*. Lower *leaves* crowded, often curved; upper ones distant.

6. A. *rubélla*, Hook. (*alpine Sandwort*); stems numerous, peduncles terminal downy single-flowered, leaves linear-subulate obtuse 3-nerved, petals elliptico-lanceolate and as well as the 4-valved capsule shorter than the lanceolate very acute 3-nerved calyx. *Hook. in Parry's 2d Voy. App.—in Fl. Lond. N. S. t.* 200. *E. Fl. v. iv. App. p.* 267. *Don in E. Bot. Suppl. t.* 2638.—*Alsine rubella, Wahl.—Arenaria quadrivalvis, Br.*

Near the summits of the Breadalbane mountains, among soil and broken rocks; very rare. On Craigalleach, *Dr. Earl*. On Ben Lawers; first found, it now appears, by *Mr. Don;* since by *Mr. Murray, Dr. Greville* and in one spot most abundantly by *Mr. W. Wilson* and *Dr. Graham*. *Fl.* July. ♃.—This is quite an alpine or arctic plant. It loves to grow with its *root* buried under a loose piece of rock, and late in the summer often acquires a reddish tinge. *Stamens* from a glandular disk. *Styles* 3, 4 or 5: the *valves* of the *capsule*, consequently, equally variable.

7. A. *tenuifólia*, Linn. (*fine-leaved Sandwort*); stems much branched dichotomous panicled above, leaves narrow linear-subulate, petals lanceolate much shorter than the narrow-lanceolate 3-nerved calyx, capsule 3-valved as long as the calyx. *E. Bot. t.* 219. *E. Fl. v. ii. p.* 308.

Sandy fields; Norfolk, Cambridgeshire, Oxfordshire, &c. Cramond Island, Firth of Forth; and near Pettycur Harbour, Scotland; *Mr. Yalden* and *G. Don*. *Fl.* June. ⊙.—*Stems* 4—6 inches high, glabrous; throughout remarkably slender, especially the *peduncles*.

8. A. *fastigiáta*, Sm. (*level-topped Sandwort*); stems erect strait, leaves fascicled subulato-setaceous erect, flowers fascicled, calyx much acuminated (white) with two central (green) ribs twice as long as the ovate petals. *E. Bot. t.* 1744. *E. Fl. v. ii. p.* 309.

In Fifeshire and mountains of Angus-shire, *Mr. Don. Fl.* June. ⊙.—Sir J. E. Smith rightly distinguishes this, the *A. faseiculata* of Jacq., from the species so named by Gouan; of which very rare plant I possess Gouan's original specimen. Scottish individuals I have never met with; but, judging from the figure in *E. Bot.*, I do not see how this is to be separated from the *A. mucronata* of *DC.* (*Alsine*, Gouan). It is very peculiar in habit and quite unlike any other British species. The *seeds* "are beautifully toothed at the margin, each on a long stalk."

** *Stipules at the base of each pair of leaves.*

9. A. *rúbra*, Linn. (*purple Sandwort*); stems prostrate, leaves narrow linear acute plane somewhat fleshy tipped with a very minute bristle, stipules ovate cloven, capsule as long as the calyx, seeds compressed angular roughish. *E. Bot. t.* 852. *E. Fl. v. ii. p.* 311.

Gravelly or sandy soils, frequent. *Fl.* June. ⊙.—Very much branched and spreading. *Stipules*, a pair of ovate, acute, white, membranaceous *scales*, united at their base. *Flowers* numerous, in the axils of the upper *leaves*, solitary. *Calyx* nerveless, and as well as the rather short *peduncles*, glandular and viscid. *Petals* ovate, red, about as long as the calyx. *Peduncles*, after flowering, slightly bent back.—The *seeds* constitute the essential character by which this is known from the following species.

10. A. *marína*, Oed. (*Sea Spurrey Sandwort*); stems prostrate, leaves semicylindrical fleshy awnless, stipules ovate cloven, capsule longer than the calyx, seed compressed smooth with a broad membranous pellucid border. *E. Bot. t.* 958. *E. Fl. v. ii. p.* 311.—*A. rubra*, β. *Linn.*

Frequent upon the sea-coast. *Fl.* June, July. ⊙, or ♂.—Much larger and stouter in all its parts than the last, independent of the difference existing in the seed: still I am not sure that these marks may not depend upon situation. Indeed I have now before me a pubescent *variety*, gathered in the Isle of Man by Mr. Wilson, in which the seeds are rough without a border; and another with the seeds smooth and without a border.

14. Cherléria. *Linn.* Cyphel.

1. C. *sedoídes*, Linn. (*mossy Cyphel, dwarf Cherleria*). *E. Bot. t.* 1212. *E. Fl. v. ii. p.* 312.

Summits of the Highland mountains, especially those of the Breadalbane range. *Fl.* June—Aug. ♃.—*Roots* exceedingly long, running deep into the earth; bearing, above, innumerable short, forked *stems*, and forming a dense mass which scarcely rises above the surface of the soil. *Leaves* crowded, linear-subulate, channelled above, slightly ciliated and glandular at the edge. *Flowers* solitary, imbedded among the dense mass of leaves, yellow-green. *Cal.* membranous at the edge.

DECANDRIA—PENTAGYNIA.

15. Cotylédon. *Linn.* Pennywort.

1. C. *Umbilícus*, Huds. (*Wall Pennywort*); leaves peltate crenate depressed in the centre, stem with a (usually) simple raceme

of pendulous flowers, upper bracteas minute entire. *E. Bot. t.* 325. *E. Fl. v. ii. p.* 314.—*Umbilicus pendulinus, DC.*

Rocks, walls and old buildings, especially in subalpine countries. *Fl.* June—Aug. ♃.—Whole plant succulent. *Stems* from 6 inches to a foot high, rounded. *Leaves* mostly radical. *Flowers* cylindrical, yellowish-green.

2. C. *lútea*, Huds. (*yellow Pennywort*); lower leaves only somewhat peltate crenate, raceme with erect flowers, bracteas subdentate. *E. Bot. t.* 1522. *E. Fl. v. ii. p.* 314.—*Umbilicus erectus, DC.*

Walls and rocks, very rare. West Riding of Yorkshire, *Mr. Tofield.* Mr. Hudson understood it to grow in Somersetshire. *Fl.* July. ♃.

16. Sédum. *Linn.* Orpine and Stonecrop.

* *Leaves plane.*

1. S. *Teléphium*, Linn. (*Orpine, or Live-long*); leaves oval-oblong plane serrated, corymbs leafy, stems erect. *E. Bot. t.* 1319. *E. Fl. v. ii. p.* 315.

Borders of fields, hedge-banks, and waste places among bushes. *Fl.* July. ♃.—1—2 feet high. *Stem* spotted. *Leaves* broad. *Flowers* purple. Very unlike any of the following species, and in habit resembling *Rhodiola rosea.*

** *Leaves terete. Flowers white or reddish.*

2. S. *dasyphýllum*, Linn. (*thick-leaved Stonecrop*); leaves opposite (except on the flowering-stems) ovato-globose fleshy, panicles glutinous. *E. Bot. t.* 656. *E. Fl. v. ii. p.* 316.

Walls and rocks, in several parts of England. Conway, Wales; *Mr. W. Wilson.* Collinton woods, Edinburgh, *Mr. Arnott.* Cork, Ireland, *Mr. Drummond. Fl.* June. ♃.—*Stems* slender, procumbent below, slightly viscid. *Flowering-stems* 2—3 inches high. *Leaves* short, singularly thick and fleshy, glaucous with a reddish tinge and dotted. *Flowers* tinged with rose-colour. *Petals* and *pistils* 5—8.

3. S. *ánglicum*, Huds. (*white English Stonecrop*); leaves ovate gibbous fleshy produced at the base alternate, cymes few-flowered, petals very sharp at the point. *E. Bot. t.* 171. *E. Fl. v. ii. p.* 317.

On sandy and rocky places, especially near the sea; common in N. Wales; most abundant in Scotland and Ireland, on rocks inland as well as by the sea-shores. *Fl.* June, July. ☉.—2—3 inches high, much branched, procumbent below. *Leaves* glaucous-green, often tinged with red. *Flowers* few in each *cyme*, but very conspicuous from their white, starlike appearance, and their purple *anthers.* It is a great ornament to some of the most barren rocks in the Highlands and Hebrides.

4. S. *álbum*, Linn. (*white Stonecrop*); leaves scattered oblongo-cylindrical obtuse spreading, cyme much branched. *E. Bot. t.* 1578. *E. Fl. v. ii. p.* 319.

Rocks, walls, and roofs of houses, in Middlesex, Worcestershire, Suffolk, and about Peterborough. Wich Cliffs, Somerset, truly wild, *Mr. Christy.* Forfar and Glamis, Scotland, *G. Don. Fl.* July. ♃.—*Stems* prostrate below only, the *flowering-stem* erect, 3—5 inches high.

Leaves pale glaucous-green, sometimes tinged with red. *Flowers* crowded, white or only tinged with rose-colour.

5. S. *villósum*, Linn. (*hairy Stonecrop*); leaves scattered oblong flattened above and as well as the peduncles and stems hairy and viscid. *E. Bot. t.* 394. *E. Fl. v. ii. p.* 319.

Stony moist places and by the sides of rills, frequent in the north of England and Scotland; especially in the subalpine parts. *Fl.* June, July. ♃. (*Sm.*)—3—4 inches high, reddish-purple. *Leaves* on the low, barren shoots, almost exactly cylindrical. *Flowers* few, of a pale rose-colour.

*** *Leaves terete. Flowers yellow.*

6. S. *ácre*, Linn. (*biting Stonecrop or Wall Pepper*); leaves erect alternate ovate gibbous fleshy produced at the base, cymes trifid glabrous leafy. *E. Bot. t.* 839. *E. Fl. v. ii. p.* 317.

Walls, rocks, and sandy ground, frequent. *Fl.* June. ♃.—Distinguished among our yellow-flowered species, by its upright, short and very succulent *leaves*, closely imbricated on the barren shoots. Very biting when chewed; and hence its name of *Wall-pepper*.

7. S. *sexanguláre*, Linn. (*tasteless yellow Stonecrop*); leaves generally in 6 rows whorled on the barren shoots cylindrical fleshy spreading produced at the base, cyme trifid. *E. Bot. t.* 1946. *E. Fl. v. ii. p.* 318.

Old walls in the east of England, generally rare. Isle of Sheppey; Greenwich Park wall; in Cambridgeshire, and Old Sarum, Wiltshire; *Mr. D. Turner*. *Fl.* July. ♃.—Well distinguished from the last by its spreading, larger and slenderer *leaves*, and by their insertion.

8. S. *reflexum*, Linn. (*crooked yellow Stonecrop*); leaves awl-shaped scattered spurred at the base, the lowermost recurved, flowers cymose, segments of the calyx ovate. *Sm.—E. Bot. t.* 695. *E. Fl. v. ii. p.* 320.

Walls, roofs of houses and thatched buildings, frequent. *Fl.* July. ♃. —Sterile *branches* with thickly placed *leaves*, often reflexed. *Flowering-stems* 6—8 inches high. *Cyme* large, yellow. *Flowers* numerous, often with 6 *petals* and 12 *stamens*. Very similar to this are the three following species.

9. S. *glaúcum*, Donn, (*glaucous yellow Stonecrop*); "leaves glaucous awl-shaped scattered produced at the base, those of the branches thread-shaped, flowers cymose, segments of the calyx lanceolate." *Sm.—E. Bot. t.* 2477. *E. Fl. v. ii. p.* 321.

Rough hills near Mildenhall, Suffolk, *Mr. F. Eagle*. Sunday's-well and Glaskeen, Ireland, *Mr. J. T. Mackay*. *Fl.* July. Aug. ♃.—"Differs from the last in being of a more glaucous hue, with much slenderer *leaves*, especially on the radical shoots. The branches of the *cyme* are more uniformly spreading and the segments of the *calyx* are narrower and more pointed." *Sm.*

10. S. *rupéstre*, Linn. (*St. Vincent's Rock Stonecrop*); "leaves glaucous produced at the base, those of the branches awl-shaped

erect in five close rows, flowers imperfectly cymose, segments of the calyx elliptical obtuse." (*Sm.*)—*E. Bot. t.* 170. *E. Fl. v. ii. p.* 321.

St. Vincent and Cheddar rocks, Somersetshire. Walls about Darlington, Yorkshire, *Mr. E. Robson.* *Fl.* July. 4.

11. S. *Forsteriánum*, Sm. (*Welsh Rock Stonecrop*); "leaves produced at the base, those of the branches semicylindrical bluntish pointed spreading in many rows, flowers cymose, segments of the calyx elliptical obtuse." (*Sm.*)—*E. Bot. t.* 1802. *E. Fl. v. ii. p.* 322.

Rocks in Wales; at the Fall of Rhydoll, Cardiganshire, *Mr. E. Forster.* At Hisväe, valley of Nant-phrancon, *Dr. Richardson and Mr. Llwyd.* Little Ormeshead, *Mr. W. Wilson.* *Fl.* June, July.—"Perhaps the compact, hemisphærical or round-topped *cyme* is the best mark by which to distinguish this from *S. reflexum.*" *Mr. W. Wilson.*

17. Oxális. *Linn.* Wood-sorrel.

1. O. *Acetoséllа*, Linn. (*common Wood-sorrel*); leaves all radical ternate, leaflets inversely heart-shaped hairy, scape single-flowered, root scaly. *E. Bot. t.* 762. *E. Fl. v. ii. p.* 323.

Woods and shady places, frequent; also at a great elevation on the mountains, among shady rocks. *Fl.* May, and on the Alps, till August. 4.—*Leafstalks* long and slender, reddish. *Leaflets* drooping at night. *Scape* with 2 scaly *bracteas.* *Flowers* handsome, drooping, white, with purplish veins. The *leaves* have a most agreeably acid flavour.

2. O. *corniculáta*, Linn. (*yellow procumbent Wood-sorrel*); stem branched, branches procumbent, peduncles mostly 2-flowered shorter than the leaves, stipules united to the base of the footstalks. *E. Bot. t.* 1726. *E. Fl. v. ii. p.* 324.

Shady waste ground, chiefly in the extreme south of England; Sussex and Devonshire. Found also near Stirling by the late *Dr.* (*Buchanan*) *Hamilton*, and near Glasgow by *Mr. Hopkirk*: but whether really wild or not, I cannot say. *Fl.* through the summer. ⊙.—This is indeed very nearly allied to *O. stricta*, but that species has a more upright, less branched *stem*; more numerous and often whorled *leaves*; with longer *flowerstalks* and several *flowers* in an *umbel*; and no evident *stipules* at the base of the *petioles.*

18. Agrostémma. *Linn.* Cockle.

1. A. *Githágo*, Linn. (*Corn Cockle*); calyx much longer than the corolla, petals entire destitute of a crown. *E. Bot. t.* 741. *E. Fl. v. ii. p.* 325.—*Lychnis Githago, Lam.—De Cand.*

Corn-fields, too frequent. *Fl.* June, July. 4.—A Genus scarcely different from *Lychnis.* 1—2 ft. high, branched, erect. *Leaves* linear-lanceolate. *Cal.* ribbed, its segments very long and slender. *Flowers* large, purple. *Seeds* from their number and size injuring the quality of the grain, with which they are thrashed. *Git* or *Gith*, Théis says, is the Celtic name for a peculiarly large and black seed; whence comes *Githago.*

19. Lýchnis. *Linn.* Catchfly.

1. L. *Flos-Cúculi*, Linn. (*Meadow Lychnis or ragged Robin*); flowers loosely panicled, petals 4-cleft, capsule roundish 1-celled. *E. Bot. t.* 573. *E. Fl. v. ii. p.* 326.

Moist meadows and pastures, frequent. *Fl.* June. ♃.—1—2 ft. high, hairy below, reddish-green, clammy above. *Leaves* lanceolate. *Calyx* and *flowerstalks* reddish-purple. *Petals* rose-coloured.

2. L. *Viscária*, Linn. (*red German Catchfly*); petals slightly notched at the extremity, capsule 5-celled stalked, stem clammy at the joints. *E. Bot. t.* 788. *E. Fl. v. ii. p.* 327.

Dry alpine rocks; on Craig Wreidhin, or Breiddin, Montgomeryshire; and about Edinburgh, Newburgh, Fifeshire, near Airly Castle, Bridge of Earne, and Den of Balthayock, Perthshire. *Fl.* June. ♃.—One foot high, glabrous. *Leaves* lanceolate, acuminate. *Flowers* in a compact *panicle*, large, rose-coloured.

3. L. *alpína*, Linn. (*red alpine Campion*); glabrous, petals bifid, flowers corymboso-capitate, capsule 1-celled. *E. Bot. t.* 2254. *E. Fl. v. ii. p.* 328.

Rocks on the summit of the Clova mountains, *G. Don. Fl.* June, July. ♃.—5-6 inches high, by no means viscid. *Leaves* lanceolate. *Flowers* rather small, rose-coloured.

4. L. *dioíca*, Linn. (*red or white Campion*); flowers diœcious, capsule of 1 cell. *Hook. Scot. i. p.* 142. *E. Fl. v. ii. p.* 328.—α. flowers red. *L. dioica*, *E. Bot. t.* 1579.—*L. diurna*, *Sibth. Ox.*—*L. sylvestris*, *Hop.*—*De Cand.*—β. flowers white. *E. Bot. t.* 1580.—*L. vespertina*, *Sibth. Ox.*—γ. flowers flesh-coloured with stamen and pistils together. *Sm.*

Under hedges and in grass-fields, common. *Fl.* α. May, June. Common in Devon and Cornwall; rare in Cambridge.—β. common in Cambridge; rather rare in Devon and Cornwall. *Rev. J. S. Tozer.*—γ. June—Sept. (*Sm.*) ♃.—1—2 ft. high, panicled above, pubescent, viscid in a slight degree about the joints of the stem. *Leaves* ovate, or ovato-lanceolate. *Calyx* in the anther-bearing flowers subcylindrical, in the fruit-bearing ones ovate. In β. the *petals* are pure white and the flowers fragrant in the evening.

20. Cerástium. *Linn.* Mouse-ear Chickweed.

* *Petals not longer than the calyx.*

1. C. *vulgátum*, Linn. (*broad-leaved Mouse-ear Chickweed*); hairy nearly erect viscid above, leaves ovate, bracteas herbaceous, petals as long as the calyx, flowers subcapitate, calyces oblong longer than their pedicels. *E. Bot. t.* 789. *E. Fl. v. ii. p.* 330.—*C. viscosum*, *Huds.*—*With.*—*Fl. Lond. ed.* 1. *with a fig.*

Fields, pastures, and road-sides, common. *Fl.* April, June. ⊙.—6—10 inches high, branched below, dichotomous above. *Petals* narrow,

bifid at the extremity. *Caps.* cylindrical, as long again as the *calyx*, curved upward.

2. C. *viscósum*, Linn. (*narrow-leaved Mouse-ear Chickweed*); hairy viscid spreading, leaves oblongo-lanceolate, bracteas membranaceous at the margin, flowers somewhat panicled, calyces oblong shorter than the pedicels. *E. Bot. t.* 790. *E. Fl. v. ii. p.* 230. —*C. vulgatum, Huds.*— *With.*—*Fl. Lond. ed.* 1. *with a fig.*

Pastures and waste places, wall tops, &c. *Fl.* the whole summer. 4. —Much resembling the last, but a larger, coarser, and spreading plant; with longer and narrower *leaves; calyces* shorter than their footstalks in general, especially when in fruit.

3. C. *semidecándrum*, Linn. (*little Mouse-ear Chickweed*); hairy viscid suberect, leaves oblongo-ovate, bracteas membranaceous at the margin, flowers somewhat panicled, calyces ovate shorter than the pedicel, segments with broad membranaceous margins, petals slightly cloven, stam. 5. *E. Bot. t.* 1630. *E. Fl. v. ii. p.* 331. —*C. pumilum, Curt.*

Dry waste places in sandy soil, on wall-tops, &c. frequent. *Fl.* March, April. ⊙.—This displays itself, as Sir J. E. Smith well observes, in early Spring, on every wall; and withers away before the *C. viscosum* begins to put forth its far less conspicuous blossoms. *Calyx-segments* acute, not "*obtuse*," longer than the *petals*. Reichenbach's figure (*Iconogr. t.* 181.) represents the petals deeply bifid, as in Smith's *var.* β., and the capsule scarcely longer than the calyx; whereas in *E. Bot.* it is figured twice as long and quite strait: which differences I find to exist in my own specimens.—Mr. W. Wilson thinks that this may be but an early flowering state of *S. viscosum*.

4. C. *tetrándrum*, Curt. (*four-cleft Mouse-ear Chickweed*); "hairy and somewhat viscid, flowers four-cleft with four stamens, petals inversely heart-shaped shorter than the taper-pointed calyx which is nearly as long as the capsule." (*Sm.*) *Hook. Scot. i. p.* 143. *E. Fl. v. ii. p.* 332.—*Sagina cerastoides, E. Bot. t.* 166.

Waste ground, walls, and sandy places, especially near the sea. On the East of England, (Yarmouth,) the South, (Sussex, *Mr. Borrer*,) and in Wales, *Mr. W. Wilson*. About Edinburgh, Banks of Tweed, *Mr. R. D. Thomson*. Howth, Ireland, *Mr. J. T. Mackay*. *Fl.* May, June. ⊙.—Sir J. E. Smith seems to consider this plant peculiar to the neighbourhood of Edinburgh; but I have received specimens corresponding with the Edinburgh plant from the three most opposite points of England. At the request of my excellent friend Mr. Borrer, I have again considered the opinion I offered in *Fl. Scot.* that this should not be kept distinct from *C. semidecandrum*. The number of parts assuredly varies from 4—5, and in regard to all the other marks of distinction, it does appear to me that they rest on very slender grounds. The figure in *E. Bot.*, drawn from a cultivated specimen, only tends to mislead; and in *E. Fl.* it is observed that the "taper-pointed calyx" is alone sufficient to keep it distinct from *C. semidecandrum;* whereas I find no difference in the calyx whatever; except perhaps that in *C. semidecandrum* there is

a more distinctly membranaceous margin, as there is also to the floral leaves or bracteas. In other respects I must confess that Mr. Borrer's own specimens of the 2 plants, do seem to me to be truly the same. See, too, Dr. Greville's remarks in *Fl. Edinensis*, *p.* 103. Mr. Wilson, however, observes that this plant, though a difficult sp., is, in his opinion, distinct.

** *Petals longer than the calyx.*

5. C. *arvénse*, Linn. (*Field Chickweed*); leaves linear-lanceolate more or less pubescent especially at the base, petals twice as long as the calyx. *E. Bot. t.* 93. *E. Fl. v. ii. p.* 333.

Dry, sandy, and gravelly places. Less frequent in Scotland. *Fl.* June, July. 4.—*Stems* branched and decumbent at the base, a span long, slender. *Flowers* large, pure white, 2 or 3 on terminal stalks. *Capsule* scarcely longer than the *calyx*.

6. C. *alpínum*, Linn. (*hairy alpine Chickweed*); subglabrous or clothed with long white soft silky hairs, leaves elliptical ovate, panicle dichotomous. *E. Bot. t.* 472. *E. Fl. v. ii. p.* 334.—*C. latifolium*, *Lightf. Scot. v. i. p.* 242. *t.* 9.

Frequent on the Highland mountains of Scotland. Very rare in Wales: and not now to be found on Snowdon. *Fl.* July, August. 4. —Much branched below and creeping, then erect, 3—5 inches high. *Flowers* large, handsome, white. *Petals* bifid at the point. Whole plant hoary.

7. C. *latifólium*, Linn. (*broad-leaved alpine Chickweed*); subglabrous or clothed with short rigid yellowish pubescence, leaves elliptical-ovate, branches mostly single-flowered. *E. Bot. t.* 473. *E. Fl. v. ii. p.* 334.

Mountains of Wales and Scotland. Clogwyn y Garnedd near Llanberis, *Dr. Richardson*; Snowdon, *Mr. W. Wilson*, but rare. Very rare on Ben Lomond; more frequent on Ben Nevis. *Fl.* July, Aug. 4.— Never clothed with long white hairs; of a deeper green than *C. alpinum*, sometimes almost glabrous. The *stems* are dichotomous and bare of *leaves* below, and much buried under rocks and stones. *Flowers* solitary, rarely 2, terminal on the branches.—I agree with Mr. W. Wilson in thinking that there exists scarcely any difference in the flower and fruit between this and the preceding. In both, the *capsules* are broadly oblong, shining, nearly twice as long as the *calyx*, strait, opening with 10 *teeth*.

8. C. *aquáticum*, Linn. (*Water Chickweed*); upper leaves cordato-ovate sessile, flowers solitary, fruit pendulous. *E. Bot. t.* 538. *E. Fl. v. ii. p.* 335.

Sides of rivers and ditches. *Fl.* July. 4.—*Stems* 1—2 feet long, branched and straggling. *Leaves* large, lower ones only on footstalks, with short scattered hairs on their surface and margins; whilst in *Stellaria nemorum*, (to which it is closely allied,) besides that the latter species has but 3 *styles*, the *leaves* are only ciliated on the margin, and appear when seen under the microscope to be very minutely dotted with raised points. *Stems* viscid upwards. The *capsule* opens with 5 teeth or valves.

21. Spérgula. *Linn.* Spurrey.

1. S. *arvénsis*, Linn. (*Corn Spurrey*); leaves whorled with minute membranaceous stipules at their base, stalk of the fruit reflexed, seeds more or less margined. *E. Bot. t.* 1535. *E. Fl. v. ii. p.* 336.—*S. pentandra*, *E. Bot. t.* 1536.

Corn-fields, too frequent, especially in light stony soils. *Fl.* June, Aug. ⊙.—*Stems* 6—12 inches high, swollen at the joints. *Leaves* 1—2 inches long, narrow, linear, terete, glabrous or a little pubescent, in two fascicles from each joint, spreading in a whorled manner. *Panicle* of many *flowers*. *Pet.* white, ovate, rather longer than the *calyx*. *Stam.* often 5. *Seed* varying exceedingly in the width of its margin.—Cattle are fond of this plant, and it is an object of culture in Holland.

2. S. *nodósa*, Linn. (*knotted Spurrey*); leaves subulate opposite glabrous connate, the lower ones sheathing, upper ones bearing clusters of young leaves, petals much longer than the calyx. *E. Bot. t.* 694. *E. Fl. v. ii. p.* 338.

Wet, sandy, and marshy places, frequent. *Fl.* July, Aug. ♃.—3—4 inches high, branched and decumbent at the base, where the *leaves* are ¾ of an inch long, but they gradually become smaller upwards. *Flowers* large, white, 2—3 on the terminal branches, peduncled. Whole plant glabrous. *Cal.* nerveless.

3. S. *saginoídes*, Linn. (*Pearl-wort Spurrey*); glabrous, leaves subulate acute awnless, peduncles solitary very long, petals shorter than the calyx, capsule twice as long. *E. Bot. t.* 2105. *E. Fl. v. ii. p.* 338.

Highland mountains, frequent. *Fl.* June, July. ♃.—*Stems* many from the root, procumbent below, 2 or 3 inches in length. *Leaves* numerous and rather long at the base, shorter in remote pairs upon the stem. *Flower* drooping before and after expansion; *capsule* erect.

4. S. *subuláta*, Swartz, (*awl-shaped Spurrey*); leaves subulate subciliated tipped with a bristly point, peduncles solitary very long, petals and capsule as long as the calyx. *E. Bot. t.* 1082. *E. Fl. v. ii. p.* 339.—*S. saginoides*, *Curt.*—*S. laricina*, *Lightf.*—*Fl. Dan. t.* 858.—*Sagina procumbens*, β. *Linn.*

Dry, gravelly, and stony pastures. *Fl.* July, Aug. ♃.—This comes very near the last species, nor is it easy at all times to discriminate between them. Mr. W. Wilson cannot distinguish the Anglesea *S. subulata*, from the Ben Lawers *S. saginoides*; which latter perhaps is but an alpine *var.* of the former, though the original species of *Linn.* Both have very much the habit of *Sagina procumbens*.

APPENDIX;

In which the Genera of the 452 preceding pages are arranged according to the NATURAL METHOD.

The Appendix was destined to contain remarks upon many of the most important *Natural Orders* of British Plants: but this little volume having already attained a greater length than was originally proposed, these notices must be very brief indeed.—According to the method in question, the vegetable kingdom is divided into 3 primary groupes or *Classes*. 1. Acotyledones, 2. Monocotyledones, 3. Dicotyledones.

CLASS I. ACOTYLEDONES. *Juss.* (Cryptogamia.[1] *Linn.*) No evident *flowers*. *Seeds* or organs of reproduction without *Embryo*, consequently *acotyledonous.—Vegetation*. In all, except the Ferns, the structure seems to be entirely cellular. The *Ferns* alone have tubular vessels among the cells, and hence approach the 2d Class. The Orders not being very numerous in this Class, are not subdivided.

Ord. I. FUNGI.

The lowest in the scale of vegetables, yet very variable in appearance; growing upon the ground, or parasitic on other vegetable substances; rarely, if ever, aquatic, and scarcely ever green: filamentous, gelatinous, corky, coriaceous, fleshy or membranaceous. In the larger sense of the word, the whole plant may be considered as fructification; since, distinct from it, there is no true stem; there are no branches; no leaves. After being once dried, they do not revive by the application of moisture like the greater number of plants in this Class; and generally speaking, they are of very short duration, soon decaying, and frequently becoming putrid in decay.

Div. I. *Seeds internal.* Sphæria, &c.—Uredo. Of this genus there are two destructive species: 1. *U. Segetum;* a black dust, residing within the fruit or glumes of grasses, especially of *Wheat*, *Barley*, and *Oats;* thus destroying the kernel and doing vast injury to our crops, converting the part affected into a black powder, and known by the name of *brand, dust-brand, smut, burnt-corn*. This kind has no particular scent.—2. *U. Caries, DC.;* a brownish-black dust, consisting of larger grains than the last, and filling the kernel itself of wheat, &c. with a fetid greasy powder. Far more injurious than the last, and not externally conspicuous, but causing the seed to swell, and thus to look diseased. In thrashing, the breaking of these grains affects the whole mass. This is known to farmers, as *balls, bladder-* or *pepper-brand, stinking-brand*. Puccinia: P. *graminis, Pers.;* forming long blackish-brown parallel lines

[1] These will be treated at large in a separate volume, which is in considerable forwardness, and which may be considered as the 2d of the present, or as the 5th vol. of Sir J. E. Smith's *English Flora*.

on the stem and leaves of the Grass-tribe. It constitutes the *blight*, *mildew*, and *rust* in corn. In the same groupe of Fungi are found the *Mucors*, or mould of cheese, &c. the *Tubers* or *Truffles*, and the curious genera GEASTRUM and PHALLUS.

DIV. II. *Fleshy Fungi, bearing seeds externally.* AMANITA.—A. *muscaria, Pers.;* pileus orange-red or brown, at length nearly plane, the warts, gills and stipes white, stipes annulate.—Frequent in woods, where it is conspicuous by its bright colour.—Said to be poisonous.—AGARICUS.—*A. campestris*, the true *Mushroom;* distinguished by the purplish-brown colour of its gills, from many other species that are esteemed at our tables, and from many that are known to be poisonous.—MERULIUS *cantharellus* is abundantly eaten upon the continent, as well as in England. M. *lachrymans* produces the dry-rot in timber. BOLETUS *fomentarius* forms *Amadou*, or *German tinder*. MORCHELLA *esculenta* is the *Morell*. Several species of RHIZOMORPHA insinuate themselves between the bark and wood of trees, and hasten the decay of the timber.

ORD. II. LICHENES.

Thallus (*or frond*) polymorphous, without root, perennial, abounding in excessively minute bodies for the purpose of propagation, either imbedded in the substance or scattered upon its surface, or included in peculiar organs, which are considered the *fruit* or *apothecia*. The *Lichens* have a closer affinity to the Fungi than to any other Order. Sometimes they are formed of a simple, pulverulent crust or *frond;* sometimes they are membranous, coriaceous, gelatinous, lobed and variously branched, at all times destitute of leaves. They present various colours, not unfrequently tending to green. In this extensive Order we have many useful and curious plants. The species of the genus GYROPHORA constitute the *Tripe de Roche* of the Canadian Hunters. The genus GRAPHIS, as its name implies, not inaptly resembles written characters in its fructification. LECANORA yields the *Perelle*, (L. *Perellus*) of the French, and the *Cudbear*, (L. *tartarea*); ROCCELLA, the *Archil* (R. *tinctoria*), so important to the Dyer. PARMELIA *omphalodes*, and P. *saxatilis* are used for the same purpose by the peasantry of Scotland. In CENOMYCE, we have the *Rein-Deer moss*, as it is erroneously called, (C. *rangiferina*), and in CETRARIA, the *Iceland-moss*, (C. *islandica*.)

ORD. III. ALGÆ.

Vegetables, for the most part, aquatic, destitute of roots, or furnished only with a fibrous or scutate base, for the purpose of attachment, not of nourishment, whose *fronds* are either gelatinous, filamentose or coriaceous, having, for fructification, *seeds* or *sporules*, either imbedded in tubercles, or processes arising from the frond, or immersed or more or less scattered on the surface. Many of them float in the water. They are subpellucid, often beautifully cellular, their colour frequently green, brownish, bright-red or pink. After having been kept dry for a considerable length of time, they will revive by immersion in water: but that portion of the plant only imbibes the fluid which is covered by it.

DIV. I. TREMELLINEÆ, (*gelatinous Algæ*); to which belongs the curious *Red Snow* (PALMELLA *nivalis*) of our arctic navigators, and which has been found in Scotland and the north of England.

Div. II. Confervoideæ, (*distinctly jointed Algæ.*) Here belong the extensive genus Conferva, the singular Oscillatoriæ, which are found in fresh-water, and many others, such as Ceramium, Polysiphonia, &c. peculiar to the sea.

Div. III. Ulvoideæ, (*thin and membranous Algæ.*) These include the beautiful Zonaria *pavonia* and the genus Ulva; of which two or three species are eaten and known by the name of *Laver*.

Div. IV. Fucoideæ. This division comprises the rest of the *Seaweeds*, as they are commonly called; such as Fucus *natans*, so abundant in some seas as to impede the progress of vessels; F. *nodosus*, F. *vesiculosus*, F. *serratus*, and F. *lorcus*, of all which, kelp is made: Laminaria *esculenta* and *saccharina*, frequently eaten upon our northern shores or in other countries: the genera Delesseria, Sphærococcus, Chondria, and Halymenia, which exhibit the most beautiful red and rose tints. In the latter genus are found H. *edulis* (*pepper Dulse*) and H. *palmata* (*true Dulse*).—Many, if not all the Fuci, contain iodine, in a state of hydriodate of Potash or Soda.

Ord. IV. CHARACEÆ.

Fructification of 2 kinds. *Capsules* (*?*) axillary, solitary, sessile, oval, spirally twisted, invested with a pellucid membrane and crowned with 5 lobes, containing very minute *seeds* and *globules* of a reddish or orange colour, surrounded by a pellucid covering, at length opening into 3 or 4 valves, (8, *Wils.*) and containing a mass of very minute filaments. —Aquatic plants, with pellucid, filiform stems, which are sometimes coated with a calcareous crust, and whorled branches. The *fruit* of this genus is often found fossilized in chalk, and known under the name of *Gyrogonites*.—This Order contains the genus Chara, which Sir J. E. Smith places in the Class *Monandria* of the artificial arrangement.

Ord. V. HEPATICÆ.

Fructification mostly of 2 kinds; consisting of very minute, rounded, reticulated bodies, often called *anthers*; and *capsules*, in an early stage covered with a *calyptra*, and surrounded by a *perianth*, at length bursting the *calyptra* irregularly and (usually) opening from the extremity into 2 or more equal valves (without an *operculum*), one-celled, containing numerous *seeds* and spirally-twisted filaments. *Minute plants*, frondose or foliose; mostly loosely cellular, reviving, when dried, by the application of moisture. In this Order, we have the extensive genus, Jungermannia, and the highly curious one, Marchantia.

Ord. VI. MUSCI. Mosses.

Fructification of 2 kinds; *anthers*, so called, concealed among leaves, and *capsules*, in an early stage, covered with a *calyptra*, which bursts transversely and regularly at the base, and rises up with the mostly pedunculated and operculated *capsule*. The *operculum*, or *lid*, is deciduous in most instances. Mouth of the *capsule* naked or furnished with a single or double *fringe* or *peristome*; containing *seeds*, surrounding a *columella*, (except in some Phasca) enclosed in a seminal bag, destitute of spiral filaments. *Plants* of small size, of a more or less compactly cellular structure, readily reviving by the application of moisture after being dry,

bearing *leaves* which are very rarely, indeed, divided, often nerved, entire or toothed and serrated at the margin.

Div. I. *Destitute of Peristome.* Andræa, Gymnostomum, &c.

Div. II. *Peristome single, of* 4, 8, 16, 32, *or* 64 *teeth.*—Tetraphis, Splachnum, Polytrichum, Dicranum, &c.

Div. III. *Peristome double.*—Funaria, Orthotrichum, Hypnum, Bryum, &c.

Ord. VII. FILICES, see p. 439.

Class II. MONOCOTYLEDONES. *Juss.*

Embryo with 1 *cotyledon* or seed-lobe, which contains the *plumule;* the opposite extremity including the *radicle. Stems* formed of cells, and tubular vessels, which are irregularly scattered, with no distinction of bark, wood, and pith; the oldest formation most external, the centre the softest. *Leaves* alternate, often sheathing, generally with parallel nerves. *Flowers* evident; the parts of which they are composed mostly arranged in a ternary manner: the *perianth* very frequently single.

DIV. I. *Perianth inferior (sometimes wanting).*

Ord. I. Aroideæ, (often poisonous, yet their roots afford an abundant fecula, which is used as food.) Arum. Acorus.

Ord. II. Pistiaceæ. Lemna.

Ord. III. Typhaceæ. Typha. Sparganium.

Ord. IV. Alismaceæ. Alisma. Actinocarpus. Sagittaria. Subord. Fluviales. Potamogeton. Zostera. Ruppia. Zannichellia.

Ord. V. Cyperaceæ. Cladium. Cyperus, &c. p. 15. Elyna. Carex.

Ord. VI. Gramineæ. (*Glume calyx*, L.) 1—2- or many-flowered, mostly of 2 valves, rarely of 1, or wanting. *Perianth* (*corolla*, L.) glumaceous, 1—2-valved. *Stam.* hypogynous. *Anthers* versatile. *Ovary* superior, with 1 ovule. *Styles* 2, rarely 1 or 3. *Stigmas* plumose. *Fruit* a *caryopsis* or *utriculus. Embryo* scutelliform, lateral, on the outside of the base of a farinaceous copious albumen. *Plumule* naked. *Stems* or *culms* fistulose, generally simple and herbaceous, jointed, sometimes branched, rarely shrubby. Leaves *one to each joint, with a sheath slit longitudinally on one side, having a membranous appendage* (ligule) *at its summit.* Flowers *small, panicled or spiked. Br.* (A most natural Order, and one of the highest importance in the whole vegetable kingdom, comprehending the *true Grasses*). Anthoxanthum. Nardus. Alopecurus, &c. p. 16.

Ord. VII. Restiaceæ. Eriocaulon.

Ord. VIII. Junci. Juncus. Luzula. Narthecium.

Ord. IX. Juncagineæ. Triglochin. Scheuchzeria.

Ord. X. Butomeæ. Butomus.

Ord. XI. Melanthaceæ. (The *Colchicum* is said to form a powerful ingredient in the *Eau médicinale*). Colchicum. Tofieldia.

Ord. XII. Liliaceæ. (This Order contains many important plants. The roots of some, as *Onions*, are esculent, and most of the bulbous roots abound in an acrid or bitter principle, whence they are used medicinally, as the *Squill* of the shops. *Aloes* yield a very potent drug. *Tulip-roots* are eaten in Russia; and those of *Scilla esculenta* in great

quantities in North-West America, where they are called *Quamash.*) Allium, &c. p. 150.

Ord. XIII. Smilaceæ. Convallaria. Ruscus. Paris.

Div. II. *Perianth superior.*

Ord. XIV. Dioscoreæ. Tamus.

Ord. XV. Amaryllideæ. Narcissus. Galanthus. Leucojum.

Ord. XVI. Irideæ. (The *stigmas* of a *Crocus, C. sativus*, constitute *Saffron*. The roots of some species of *Iris* are purgative.) Iris. Trichonema. Crocus.

Ord. XVII. Hydrocharideæ. Hydrocharis. Stratiotes.

Ord. XVIII. Orchideæ. Orchis, &c. p. 365.

Class III. DICOTYLEDONES.

Div. I. *Perianth single or none.*

Ord. I. Coniferæ. (This and the next Order contain nearly all our *Forest-trees*). Pinus. Juniperus. Taxus.

Ord. II. Amentaceæ. Subord. 1. Ulmaceæ. Ulmus.—Subord. 2. Betulineæ. Betula. Alnus.—Subord. 3. Salicineæ. Salix. Populus.—Subord. 4. Cupuliferæ. Fagus. Castanea. Quercus. Corylus. Carpinus.

Ord. III. Urticeæ. (Affording *hemp* from some *Nettles* and from the Genus *Cannabis;* a narcotic bitter from the *Hop* and *Hemp;* esculents from the *Bread-fruit* and *Fig*, which latter also yields *Caoutchouc;* and a nutritive milk from the *Cow-tree, Galoctodendron utile*, Humb.). Urtica. Parietaria. Humulus.

Ord. IV. Euphorbiaceæ. (*Anthers* and *pistils* in distinct flowers, naked, or with a free, 3- or more cleft *perianth*. *Barren fl. Stam.* 1—12. *Anthers* didymous. *Fertile fl. Ovary* 1. *Styles* 2—3. *Stigmas* 2—3, bipartite or 2-lobed. *Capsule* elastically opening into 2—3, 1- or 2-seeded *cocci*. *Seeds* suspended. *Embryo* in the axis of a fleshy *albumen*. *Radicle* superior. *Cotyledons* flat.—Stems *herbaceous or woody*. Leaves *alternate, opposite or whorled.—Acrid milky vegetables, yielding food and poison, medicine, dye, and Caoutchouc or India-rubber*). Mercurialis. Euphorbia. Ruscus.

Ord. V. Empetreæ. Empetrum.

Ord. VI. Aristolochiæ. Asarum. Aristolochia.

Ord. VII. Eleagneæ. Hippophae.

Ord. VIII. Santalaceæ. Thesium.

Ord. IX. Thymeleæ. (The inner bark of some species contains so much fibre as to constitute a hemp or paper.) Daphne.

Ord. X. Polygoneæ. (Seeds very farinaceous and esculent.) Polygonum. Rumex. Oxyria.

Ord. XI. Chenopodeæ. (All yield carbonate of *soda*, and hence *Barilla*. *Beet-roots* afford the very fine sugar that is now extensively manufactured in France.) Chenopodium. Atriplex. Beta. Salsola. Salicornia.

Ord. XII. Scleranthieæ. Scleranthus.

Ord. XIII. Amaranthaceæ. Amaranthus.

Ord. XIV. Plantagineæ. Littorella. Plantago.

Div. II. *Perianth double.*

Sect. I. *Cor. monopetalous, hypogynous, (not attached to the calyx.)*

Ord. XV. Plumbagineæ. Statice.

Ord. XVI. Primulaceæ. Anagallis. Cyclamen. Lysimachia. Hottonia. Primula. Centunculus. Trientalis. Samolus. Glaux.

Ord. XVII. Lentibulariæ. Utricularia. Pinguicula.

Ord. XVIII. Verbenaceæ. Verbena.

Ord. XIX. Labiatæ. (*Cal.* tubular. *Cor.* monopetalous, hypogynous, irregular. *Stam.* 4, mostly didynamous, 2 sometimes sterile or wanting. *Style* 1. *Stigma* 2-lobed. *Achenia* 4, enclosed in the calyx. *Seed* solitary, erect. *Embryo* erect. *Albumen* 0.—Leaves *opposite.* Stem *square. Br.*—An extensive and eminently natural Order, abounding in essential oils, camphor, and bitter extractive: many of the individuals are therefore employed medicinally.) *With* 2 *stamens;* Lycopus and Salvia. *With* 4 *didynamous stamens;* Mentha, &c. p. 267.

Ord. XX. Scrophularineæ, (including Melampyraceæ, *Rich.*) (*Cal.* persistent. *Cor.* monopetalous, hypogynous, generally irregular, deciduous, with an imbricated æstivation. *Stam.* generally 4, didynamous, rarely equal, sometimes 2. *Style* 1. *Stigma* 2-lobed, rarely undivided. *Caps.* (very seldom a *Berry*) 2-celled, 2—4-valved; the *valves* entire or bifid, with a dissepiment either double from the inflexed margins of the valves, or simple, parallel and entire, or opposite and bipartite. *Receptacle* of the seeds central, united to the dissepiment, or eventually separating. *Seeds* few or numerous. *Embryo* straight, enclosed in the axis of a fleshy *albumen.*—Herbs (*sometimes* shrubs) *usually with opposite leaves. Br.*—In this Order are many powerfully medicinal plants, as the *Hedge-hyssop* (Gratiola) the *Foxglove,* &c.) *With* 2 *stamens;* Veronica. *With* 4 *didynamous stam.* Bartsia, Euphrasia, Rhinanthus, Melampyrum, Pedicularis, &c. p. 270.

Ord. XXI. Orobancheæ. Orobanche. Lathræa.

Ord. XXII. Solaneæ. (*Cal.* 5- rarely 4-partite, persistent. *Cor.* monopetalous, hypogynous, its *limb* 5-cleft, equal or somewhat unequal, deciduous, with a plicate æstivation. *Stam.* inserted into the *Cor.*, alternate with its segments and equalling them in number, 1 sometimes abortive. *Ovary* 1—2- or 4-celled, many-seeded. *Style* 1. *Stigma* obtuse, rarely lobed. *Pericarp* 1—2- or 4-celled; either a *capsule,* with a parallel double dissepiment, or a *berry,* with the receptacles united to the dissepiments. *Seeds* numerous. *Embryo* included in a fleshy albumen, more or less curved, often out of the axis. *Radicle* opposite the *hilum.*—Herbs *or* shrubs. Leaves *alternate, without* stipules, *sometimes opposite beneath the flowers. Br.*—Linnæus called this family *Luridi,* and fancied, that their lurid appearance indicated the dangerous properties common to many of them. They are acrid and narcotic, as the *Deadly Nightshade,* the *Mandragora, Henbane, Thorn-Apple, Tobacco,* &c. whilst the root of one, when cooked, affords a most important article of food; *Potatoes:* and the fruits of the *Love-Apple, Winter-cherry,* and *Capsicum* are con-

diments.) We have in Britain, only Datura, Hyoscyamus, Solanum, Atropa, and Verbascum.

Ord. XXIII. Boragineæ. (*Cal.* 5-rarely 4-) partite, persistent. *Cor.* hypogynous, monopetalous, most frequently regular, 5-cleft, sometimes 4-cleft, with imbricated æstivation. *Stam.* inserted into the *cor.*, alternate with its segments, and equal to them in number, rarely more. *Ovary* 4-partite, 4-seeded, or simple, 2—4-celled. *Ovules* definite, pendulous. *Achenia* 4, apart or united at the base, or a 4-celled *drupe*, or a *berry* with 2—4 *nuts*. *Seeds* without, or nearly without *albumen*. *Radicle* superior.—Herbs or Shrubs. Leaves *alternate, without stipules, usually scabrous.* Flowers *frequently in* 1-*sided, more or less compound spikes or racemes.*—The *Borragineæ* are mild, emollient and mucilaginous, sometimes slightly bitter and narcotic. The roots of several species afford a red dye. Echium, &c. p. 79.

Ord. XXIV. Convolvulaceæ, (which are acrid and purgative, yielding *Scammony*, *Jalap*, &c.; nevertheless the roots of the *Batatas* are abundantly eaten in the Tropics). Convolvulus, Cuscuta.

Ord. XXV. Polemoniaceæ. Polemonium.

Ord. XXVI. Gentianeæ, (containing the most powerful of all vegetable bitters). Exacum. Erythræa. Gentiana. Swertia. Chlora. Menyanthes. Villarsia.

Ord. XXVII. Apocyneæ, (abounding in a poisonous milky juice, to which belong the *Strychnos Nux vomica*, the famous *Upas*, the *Tanghin*, or *Poison-tree* of Madagascar; *Asclepias vomitoria*, &c. The *Urceola elastica* produces *Caoutchouc*). Vinca.

Ord. XXVIII. Oleineæ. Fraxinus. Ligustrum.

Ord. XXIX. Monotropeæ. Pyrola. Monotropa.

Ord. XXX. Ericineæ. Erica. Calluna. Menziesia. Azalea. Ledum. Andromeda. Arbutus.

Sect. II. *Cor. monopetalous, perigynous (inserted upon the calyx).*

Subsect. I. *Cor. monopetalous.*

Ord. XXXI. Vaccinieæ. Vaccinium.

Ord. XXXII. Campanulaceæ, (lactescent and bitter, as is the following Order). Campanula. Phyteuma.

Ord. XXXIII. Lobeliaceæ. Lobelia. Jasione.

Ord. XXXIV. Compositæ. (*Cal.* adherent with the ovary, the *limb* entire or toothed or mostly expanded into a feathery *pappus*, which crowns the fruit. *Cor.* regular or irregular. *Stam.* 5, syngenesious. *Ovary* 1. *Style* 1, sheathed by the tube of the anthers. *Stigmas* simple or bifid. *Fruit*, an *achenium*. *Seed* erect, without albumen. *Embryo* straight. *Radicle* opposite the hilum.—Stems, *in the British genera, herbaceous.* Leaves *opposite or alternate.* Flowers *capitate, inserted into a broad receptacle and surrounded by an involucre.*) Tribe 1. Cichoraceæ, (bitter and narcotic, abounding in milky juice.) Tragopogon, &c. p. 334.—Tribe 2. Cinarocephalæ. (bitter, and tonic). Arctium, Carduus, &c. p. 335. Centaurea, p. 339.—Tribe 3. Corymbiferæ, (aromatic, stimulant, containing bitter principle and essential oil. Eupatorium, &c. p. 336, and 337. Tanacetum, &c. p. 337.

Ord. XXXV. Dipsaceæ. Dipsacus. Scabiosa. Knautia.

Ord. XXXVI. Valerianeæ. Valeriana. Fedia.

Ord. XXXVII. Rubiaceæ, (a most important natural family; of which those individuals with woody, shrubby stems, and opposite stipulated leaves, afford the true *Cinchonas* or *Peruvian Bark; Coffee*, &c. These are confined to hot or warm climates; whereas we, in our country, possess only that groupe with *herbaceous stems* and *whorled leaves*, yielding a dye in their *roots*, and called Stellatæ by Linnæus; thus characterized:—*Cal.* adherent with the *ovary*, entire or toothed at the margin. *Cor.* regular, 4—5-lobed. *Stam.* 4—5, between the divisions of the *cor.* *Ovary* 1. *Style* 2-partite or bifid. *Stigma* double. *Pericarp* 2-celled, 2-seeded. *Embryo* straight, imbedded in the axis of a horny *albumen*. *Radicle* inferior.—Herbs *with whorled leaves*. Flowers *axillary and terminal*.) Rubia. Galium. Sherardia. Asperula.

Ord. XXXVIII. Caprifoliaceæ. Lonicera. Linnæa. Viburnum. Sambucus. Hedera. Cornus.

Ord. XXXIX. Lorantheæ. Viscum.

Subsect. II. *Cor. polypetalous.*

Ord. XL. Umbelliferæ. (*Cal.* adherent with the *Ovaries*, 5-toothed; *teeth* minute, often obsolete. *Cor.* of 5, often bifid or obcordate *petals*, sometimes very unequal, the outer ones the largest. *Stam.* 5, alternate with the petals, inserted on the underside of a thick fleshy disk, at the base of the *styles*. *Styles* 2. *Stigmas* capitate. *Achenia* 2, combined, attached to a central stalked *receptacle*, separating when ripe. *Seed* solitary, pendulous. *Embryo* minute, in the base of a horny *albumen; radicle* pointing to the *hilum*.—Herbs. Leaves *alternate, generally compound and embracing the stem with their sheathing bases*. Flowers *in umbels*.—This Order includes many poisonous plants, especially such as grow in watery places; many esculent and aromatic ones, usually such as inhabit dry situations.) Hydrocotyle, &c. p. 85, 86.

Ord. XLI. Halorageæ. Hippuris. Myriophyllum. Callitriche.

Ord. XLII. Ceratophylleæ. Ceratophyllum.

Ord. XLIII. Onagrarieæ. Epilobium. Œnothera. Isnardia. Circæa.

Ord. XLIV. Cucurbitaceæ. Bryonia.

Ord. XLV. Lythrariæ. Lythrum. Peplis.

Ord. XLVI. Saxifrageæ. Saxifraga. Chrysosplenium. Adoxa.

Ord. XLVII. Grossulariæ. Ribes.

Ord. XLVIII. Paronychiæ. Corrigiola. Herniaria. Illecebrum. Polycarpon.

Ord. XLIX. Tamariscineæ. Tamarix.

Ord. L. Crassulaceæ. Tillæa. Cotyledon. Sempervivum. Sedum. Rhodiola.

Ord. LI. Portulaceæ. Montia.

Ord. LII. Rosaceæ. (*Cal.* 4—5-lobed, free or adherent with the *ovary*. *Pet.* 5, perigynous, equal. *Stam.* perigynous, definite or indefinite, with an incurved æstivation. *Anther* 2-celled, bursting longitudinally. *Carpels* many, rarely solitary, 1-celled, 1-2-or more seeded, combined

together, or making one with the calyx. *Styles* simple, generally from below the extremity of the ovary, distinct or combined. *Seeds* ascending or suspended, nearly without *albumen*. *Embryo* straight, with fleshy or foliaceous *cotyledons*.—Herbs *or* shrubs *or* trees, *with alternate stipulated* leaves. Stipules *one on each side the base of the petiole*.—The pulpy or fleshy fruits are esculent: the plant is often poisonous from prussic acid, with which many of the species abound. Laurel-water is extracted, not from a true Laurel, but from *Prunus Lauro-cerasus*. The *bitter Almond* owes its flavour to the presence of that acid. Some produce a gum: others are astringent. Roots of *Tormentil* yield a dye: others are febrifuges. The qualities residing in the species of this Order entitle it to a high rank among British plants. SUBORD. 1. AMYGDALEÆ. Prunus, &c. p. 218.—SUBORD. 2. SPIRÆACEÆ. Spiræa.—SUBORD. 3. DRYADEÆ. Dryas. Geum. Rubus. Fragaria. Comarum. Potentilla. Tormentilla. Sibbaldia. Agrimonia.—SUBORD. 4. SANGUISORBEÆ. Alchemilla. Sanguisorba. Poterium.—SUBORD. 5. ROSEÆ. Rosa.—SUBORD. 6. POMACEÆ. Mespilus. Cratægus. Cotoneaster. Pyrus.

ORD. LIII. LEGUMINOSÆ. (*Cal.* inferior, 5-cleft, or 5-toothed. *Cor.* of 5 *petals*, papilionaceous. *Stam.* 10. monadelphous or diadelphous. *Ovary* 1-celled. *Style and stigma* 1. *Legumen* 2-valved, dehiscent, or indehiscent. *Seeds* with or without *albumen*, upon a marginal receptacle. *Embryo* with the *radicle* recurved upon the *cotyledons*, which are long and thick.—Herbs *or* shrubs. Leaves *alternate, mostly compound and pinnated, with or without tendrils, stipuled*.—They possess very various principles and properties, and many of the plants composing this Order are of the greatest service in the Arts, in Medicine, and domestic economy. Their *seeds* afford food for man and various animals, their herbage for cattle.) Ulex, &c. p. 313.

ORD. LIV. RHAMNEÆ. (Fruit, of some, purgative, and affording dyes of the *Jujube*, nutritive: the bark of others is astringent.) Rhamnus.

ORD. LV. CELASTRINEÆ. Euonymus. Ilex. Staphylea.

SECT. III. *Cor. polypetalous, hypogynous.*

ORD. LVI. HYPERICINEÆ. (Aromatic and resinous; juice sometimes purgative.) Hypericum.

ORD. LVII. ACERINEÆ. Acer.

ORD. LVIII. TILIACEÆ. Tilia.

ORD. LIX. MALVACEÆ. (*Cal.* 5-cleft, calyculate. *Cor.* of 5 *petals*, regular. *Stam.* indefinite, monadelphous, often united with the petals at their base. *Anthers* reniform, 1-celled. *Ovary* 1. *Styles* single, or several combined. *Stigmas* several. *Fruit* of many cells and many valves, or of many *capsules*, which are dehiscent or indehiscent, inserted into a compact body, or placed in a whorl round the base of the style. *Seed* solitary, ascending. *Albumen* mucilaginous, not abundant. *Embryo* curved. *Cotyledons* foliaceous, plaited.—Herbs *or* shrubs, *or* trees. Leaves *alternate, with* stipules. Flowers *axillary.—They abound in mucilage, especially the seeds. The stems and roots afford an excellent fibre*.) Lavatera, Malva, Althæa.

ORD. LX. GERANIACEÆ. Geranium. Erodium.

ORD. LXI. OXALIDEÆ, (producing oxalic acid). Oxalis.

Ord. LXII. Balsamineæ. Impatiens.

Ord. LXIII. Lineæ, (whose stems contain the fibres which constitute flax.) Linum. Radiola.

Ord. LXIV. Caryophylleæ. Buffonia. Moenchia. Sagina. Holosteum. Saponaria, &c. p. 186.

Ord. LXV. Elatineæ. Elatine.

Ord. LXVI. Frankeniaceæ. Frankenia.

Ord. LXVII. Droseraceæ. Drosera. Parnassia.

Ord. LXVIII. Resedaceæ. Reseda.

Ord. LXIX. Cisteæ. Helianthemum.

Ord. LXX. Violariæ. Viola. (Roots powerfully emetic and yielding *Ipecacuanha*).

Ord. LXXI. Polygaleæ. Polygala.

Ord. LXXII. Cruciferæ. (*Cal.* of 4 leaves. *Pet.* 4. *Stam.* 6, tetradynamous, alternate with the petals; 2 solitary, 4 in 2 pairs. *Ovary* and *style* 1, *hypogynous glands* at the base of the stamens. *Pericarp*, (a *pouch* or *pod*,) 2-celled, 2-valved, many-seeded. *Dissepiment* parallel with the valves. *Seeds* on a marginal receptacle, without *albumen*. *Radicle* curved upwards towards the margins of the cotyledons (o =), or against the back of one of them (o ||), opposite to the *hilum*.—Herbs. Leaves *alternate*. Flowers *in corymbs or racemes*.—A most important *Nat. Order*, many of the plants which it includes being cultivated as esculent; the *cabbage*, *turnep*, *mustard*, and *cress* of various kinds, *horse-radish*, &c. &c. They contain an essential oil, which renders them stimulating, while their *seeds* yield a fine and mild oleaginous fluid; as *rape;* and they are antiscorbutic. The *mustard-seed* is used for sinapisms. Several kinds contain sulphur, and the basis of Ammonia, nitrogen). Cakile, &c. p. 290.

Ord. LXXIII. Fumariaceæ. Fumaria. Corydalis.

Ord. LXXIV. Papaveraceæ. (*Cal.* of 2, deciduous leaves. *Cor.* of 4-8 petals. *Stam.* indefinite. *Ovary* 1. *Stigma* lobed. *Capsule* 1-celled, many-seeded. *Seeds* upon parietal receptacles, which form incomplete dissepiments. *Embryo* in the base of a fleshy *albumen*.—Herbaceous plants, *with alternate* leaves.—Opium is the product of these plants, which largely afford a milky, acrid and narcotic juice; while the seeds of all, except *Argemone mexicana*, are mild and oleaginous.) Papaver, &c. p. 258.

Ord. LXXV. Nymphæaceæ. Nymphæa. Nuphar.

Ord. LXXVI. Berberideæ. Epimedium.

Ord. LXXVII. Ranunculaceæ. (*Cal.* of mostly 5, rarely 3 or 6 leaves. *Pet.* definite or indefinite, sometimes wanting. *Anthers* adnate, mostly reversed. *Ovaries* 1 or many, 1- or many-celled. *Fruit* consisting of several 1-seeded *carpels*, rarely a *berry*, sometimes follicled. *Embryo* strait, placed in the base of a horny *albumen*.—Herbaceous *or* shrubby. Leaves *simple or divided, with more or less dilated stalks. Acrid and poisonous.*) Actæa. Myosurus. Pæonia, &c. p. 264. Thalictrum. &c. p. 265.

CORRECTIONS AND ADDITIONS.

[The Author has to express his regret that the Genus ERYNGIUM has by an accident been omitted in the body of the Work.]

Page 86, after the Generic character of Sanicula, add

48*. ERÝNGIUM. *Cal.* of 5 teeth, leafy. *Pet.* erect, oblong, with long inflected points. *Fruit* subterete, obovate. *Carpels* covered with chaffy scales, without *ridges* or *vittæ*. *Seed* semiterete.—Involucre *of many leaves*. Flowers *upon a scaly receptacle, collected into a compact head.*—Name, ερυγγιον of Dioscorides.

48*. ERÝNGIUM. *Linn.* Eryngo.

1. E. *marítimum*, Linn. *(Sea-Eryngo, Sea-Holly)*; radical leaves roundish plaited spinous stalked, upper ones lobed palmated amplexicaul rigid, involucres longer than the heads, scales of the receptacle 3-cleft. *E. Bot. t.* 718. *E. Fl. v. ii. p.* 35.

Sandy sea-shores, frequent. *Fl.* July, Aug. 4.—Whole plant very stiff and rigid, glaucous. *Leaves* and *involucres* beautifully veiny. *Flowers* blue, in dense heads, having at first sight more the appearance of a *compound flower* (of the Class *Syngenesia*) than of an *umbelliferous Plant*. The *roots* are well tasted, when candied, and they are considered stimulating and restorative, having been so employed in the days of Shakspeare. Linnæus recommends the bleached shoots as a substitute for Asparagus.

2. E. *campéstre*, Linn. *(Field Eryngo)*; radical leaves subternate, lobes pinnatifid, cauline ones bipinnatifid amplexicaul all with spinous teeth, involucres lanceolate spinous, scales of the receptacle undivided. *E. Bot. t.* 57. *E. Fl. v. ii. p.* 35.

Very rare; and found, originally in Ray's time, truly wild in England; near Plymouth, whence *Mr. Banks* of that place has sent me beautiful specimens. Near Daventry, *Rev. Mr. Wood* and *Mr. Griffiths*. Sandy fields, near Lismore, Waterford, Ireland, *Mr. Drummond*, (in Mackay's *Cat.*) The Northumberland stations have originated probably in ballast. *Fl.* July, Aug. 4.

Page 383, l. 24, for "Miss Craufurd," read *Miss Drysdale.*—The *Rev. Mr. Patrick* in his Descr. of Indigenous Plants of Lanarkshire, observes that the *Euphorbia Lathyris* is now found apparently wild in several places about Hamilton.

ALPHABETICAL LATIN INDEX

TO THE

GENERIC AND SPECIFIC NAMES, THE SYNONYMS OF LINNÆUS AND OF SIR J. E. SMITH'S ENGLISH FLORA AND ENGLISH BOTANY.

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